TEACHERS COLLEGE RECORD

CURRENT PROPOSALS FOR FEDERAL PROMOTION AND SUPPORT OF EDUCATION IN THE STATES
John K. Norton 367

SPUTNIK AND AMERICAN EDUCATION
Earl J. McGrath 379

A PROFILE OF FITNESS IN EDUCATION
Clifford Lee Brownell 396

EDUCATION AND THE FOUNDATIONS OF LIBERTY
George S. Counts 403

THE IDEA AND PRACTICE OF TEACHER CERTIFICATION IN THE UNITED STATES
Erwin W. Von Schlichten 411

BOOK REVIEWS 427

APRIL 1958

TEACHERS COLLEGE, COLUMBIA UNIVERSITY

TEACHERS COLLEGE RECORD VOL. 59, NO. 7, APRIL, 1958

The TEACHERS COLLEGE RECORD is issued eight times a year, monthly except June, July, August, and September. The subscription price is $4.00 per year; foreign postage, 50 cents. Single issues are sold at 75 cents each. Publication offices, 1407 Sherwood Avenue, Richmond, Va., and 525 West 120th Street, New York 27, N. Y. Editorial and general offices at the latter address. Printed in the United States of America. Second-class mail privileges authorized at Richmond, Virginia. Copyright 1958, by Teachers College, Columbia University. Microfilm copies of Vols. 55, 56, and 57 are available. For details, write to University Microfilms, 313 N. First St., Ann Arbor, Mich. Microcards of Vols. 1 through 15 are also available. For details write to J. S. Canner & Company, 46 Millmont St., Boston 19, Mass.

EDITORIAL STAFF

MAX R. BRUNSTETTER, *Editor*
LAWRENCE A. CREMIN, *Associate Editor*
JEAN B. TANNER, *Production Editor*

EDITORIAL ADVISORY BOARD

ARNO BELLACK
JOEL R. DAVITZ
JOHN L. HUTCHINSON
MARY ELLEN OLIVERIO
A. HARRY PASSOW
E. EDMUND REUTTER, JR
FRANCIS SHOEMAKER
EUGENIA K. SPALDING
WILLIAM M. WISE

BUSINESS MANAGER
HAMDEN L. FORKNER, JR.

The TEACHERS COLLEGE RECORD aims to present stimulating reading for educational workers interested in broad professional competence. Today the teacher, the counselor, the school nurse, the administrator—everyone in education—needs insights and facts from many areas of professional activity. It is hoped that the reader, whatever his specialty, will constantly find in these pages ideas he can put to good use.

Articles in THE RECORD do not represent a single point of view. Fruitful thinking comes often from the challenge of opposing ideas. Therefore the opinions of the contributors are not necessarily those of THE RECORD editors, and are not intended to reflect institutional policy.

THE PSYCHOLOGY OF ADOLESCENCE

by ARTHUR T. JERSILD, *Teachers College, Columbia University*

Emphasizing the concept of self as a central consideration in dealing with all aspects of adolescent behavior and development, this book focuses on the adolescent as a person and on his attempt to discover and accept himself. By viewing adolescence, not as a self-contained experience, but as a crucial and complex part of human growth, the author seeks an understanding of the possibilities and problems confronting all human beings. 1957, 438 pages, $5.25

SELECTED READINGS IN THE PHILOSOPHY OF EDUCATION

by JOE PARK, *Northwestern University*

A scholarly presentation of the major philosophies of education, this volume provides substantial portions of some of the best known works of distinguished authors in the field. Discriminate and challenging, the readings are carefully selected to reveal a clear, significant point of view and are systematically organized according to the philosophical position of the authors. Catholic, Protestant and Jewish philosophies of education are explored. Coming Spring 1958

PERSONAL ADJUSTMENT: An Approach Through the Study of Healthy Personality

by SIDNEY M. JOURARD, *University of Florida*

Written from a positive point of view, *Personal Adjustment* is the first text to deal explicitly with the healthy, adjusted personality. In a perceptive analysis of each aspect of personality, the author compares the normal, unhealthy and healthy versions of the trait in question. Sections on expositions of interpersonal relations, love, the self-structure and conscience are unique in the field. 1958, 462 pages, $5.50

PHYSICAL EDUCATION IN THE MODERN ELEMENTARY SCHOOL

by CHARLES A. BUCHER, *New York University, and*
EVELYN M. READE, *New Jersey State Teachers College, Glassboro*

While recognizing that certain aspects of the physical education program must be planned and administered with the help of specialists, the authors emphasize the important and ever-increasing role of the classroom teacher in physical education for the elementary grades. Their aim is to enable teachers and those preparing to teach to gain a greater understanding of play as the heart of the elementary school physical education program and to show physical education as an integral part of the total education of the child. Coming Spring 1958

The Macmillan Company

60 FIFTH AVENUE, NEW YORK 11, N.Y.

Just published

Teaching Social Studies in the Elementary School

by RALPH C. PRESTON

The new revised edition

of the text that led the way in putting real substance into elementary school social studies—a text that has inspired thousands of student-teachers in the classrooms of over 200 colleges. The new edition provides a great wealth of suggestions on WHAT to teach as well as how to teach it; outstanding discussion of the learning process and ways of developing the child's full capacities to learn; up-to-the-minute lists of films, books and other teaching aids.

Elementary School Science Activities Series

by J. MYRON ATKIN & R. WILL BURNETT

Already available:

Air, Winds, & Weather; Electricity & Magnetism. **These new inexpensive pamphlets present thoroughly class-tested experiments that WILL WORK, with clear drawings that the child can understand, for use in kindergarten and all elementary grades. They teach basic scientific concepts and processes, using only simple, easily obtainable equipment. An invaluable aid to teachers facing today's urgent demand for more and better science instruction. In preparation are pamphlets on biology, astronomy, geology, etc.** **Each $1.00**

Ready This Month

Rinehart Education Pamphlets

Bridging the gap between theory and practice, these new pamphlets apply the latest ideas to specific problems that constantly confront teachers, supervisors, principals and superintendents. Valuable both as professional guides and as stimulating supplementary materials for courses in educational principles and methods. The first four on *Homework, How to Evaluate Teachers and Teaching, Using Committees in the Classroom,* and *Teaching Beginners to Read* will be Ready in April. Many more in preparation.

For copies write to

Rinehart **& COMPANY, INC.**
232 Madison Avenue, New York 16, N. Y.

New texts for your 1958 Education classes

Phenix

623 pp
$5.75

PHILOSOPHY OF EDUCATION

"This book is at once comprehensive, balanced, objective, and thorough . . . represents an unprecedented and masterful setting forth of issues which no enlightened person can ignore or refrain from having opinions about."

Ordway Tead

Wandt
Brown

117 pp
$1.40

ESSENTIALS OF EDUCATIONAL EVALUATION

". . . One book that I have suggested to each of my prospective teachers as a 'must' for the teaching profession . . . It does give in simple, understandable language the concrete, tangible means of evaluating students."

Austin M. Lashbrook, University of Tenn.

Hildreth

May

TEACHING READING

The reading process, the ways in which children learn, and how to interest children in reading are described clearly and concisely in this outstanding text.

McSwain
Cooke

April

UNDERSTANDING AND TEACHING ARITHMETIC IN THE ELEMENTARY SCHOOL

Up-to-date discussion of mathematical meanings and operations and teaching methods to prepare prospective teachers to understand and to communicate arithmetical concepts and procedures.

Barr

March

THE ELEMENTARY CLASSROOM TEACHER AND GUIDANCE

Offers thorough coverage of the necessary development and mental hygiene concepts, emphasizing practical tools and techniques for counseling grade school children.

Shane
McSwain

May

EVALUATION AND THE ELEMENTARY CURRICULUM, Rev.

Covers thoroughly the nature of educational leadership, its opportunities, and its external limitations, within the context of elementary curriculum development.

Haag

March

THE SCHOOL HEALTH PROGRAM

The responsibilities of classroom teachers, administrators, other school personnel, and parents come into clear focus in this orientation to the total school health program.

Walker
Lev

April

ELEMENTARY STATISTICAL METHODS, Rev.

A revision of a comprehensive introduction to statistics, offering a more advanced selection of material, several new chapters, and valuable practical exercises.

Henry Holt and Company, 383 Madison Ave. N.Y. 17, N.Y.

New McGRAW-HILL Books

GUIDANCE SERVICES IN SCHOOLS

By Clifford P. Froehlich, University of California, Berkeley. Second Edition. 383 pages, $5.75

With actual case histories from over 60 schools, this new edition of a popular practical guidance text shows the establishing and operating of guidance services. It is intended primarily for school administration students, and brings into proper perspective the relationship of the guidance program to the school curriculum, its public relations program, and the full utilization by the school of the research services which the guidance program can provide.

PRINCIPLES AND PRACTICES IN GUIDANCE

By Emery Stoops, University of Southern California; and Gunnar L. Wahlquist, Asst. Superintendent of Curriculum & Guidance, El Monte Union H. S. District. 369 pages, $5.50

An unusually comprehensive text for basic guidance courses offered to upper division and graduate students. More than any other available book, it gives the "how" of guidance practices to implement basic guidance principles, theories, and policies. Its new approach offers procedures geared to *all* levels of the public school system. Many forms and charts are quickly available for use by busy school administrators.

PLANNING FOR TEACHING: An Introduction to Education

By Robert W. Richey, Indiana University. McGraw-Hill Series in Education. New Second Edition. 550 pages, $6.00

Completely redesigned and updated, this new second edition offers an entirely different approach for introductory college education courses—an approach that helps the student to learn the nature of the education field, carefully weigh the wisdom of entering it, and help him plan a career based on his own abilities. Several chapters have been added, and brief overviews precede each of the six parts. It is the only text to emphasize "planning for teaching" as a long-term proposition.

EDUCATION FOR AMERICAN DEMOCRACY

By Edward J. Power, University of Detroit. McGraw-Hill Catholic Series in Education. Ready in July

A valuable contribution to educational textbook literature with a unique approach and departure in presentation. It describes and analyzes what our education is and how it became this way. No other text offers so much attention to religion in American education, or gives such a clear and accurate explanation of the prominent educational theories and their practical meaning to both teachers and students. An *Instructor's Manual* will be available.

Send for copies on approval

McGRAW-HILL BOOK COMPANY, INC.
330 West 42nd Street New York 36, N. Y.

VOL. 59, NO. 7 APRIL 1958

TEACHERS COLLEGE
RECORD

Current Proposals for Federal Promotion and Support of Education in the States*

JOHN K. NORTON

PROFESSOR OF EDUCATION, TEACHERS COLLEGE

FEDERAL legislation for the promotion and financial support of education began early in the history of the United States. It has taken a variety of forms.

At one extreme are fundamental measures based on broad conceptions as to the relation of education to the well-being and progress of the nation. These laws have made substantial and permanent contributions to the growth of education in the states. They include a minimum of prescription. They place maximum reliance upon the wisdom and integrity of the people in the states and localities in achieving the broad purpose of these enactments. The assumption is that the people know best how the legislation can be put into effect for the benefit of the children and youth in each state. Such legislation is founded on the conception that education is a matter of national concern, that this requires national leadership and financial support, but that actual achievement of national purpose can be best accomplished through autonomous and flexible state and local administration.

At the other extreme are bits of federal legislation which merely use the Congress and the schools of the states to serve some special group or to meet some

* Dr. Norton has been professor of education since 1930 and head of the Department of Educational Administration at Teachers College, Columbia, since 1942. He will retire from these positions on June 30, 1958. For nearly forty years he has been a student of federal relations to education. While he was chairman of the Joint Commission on the Emergency in Education of the NEA, the idea of an Educational Policies Commission was conceived and later put into effect. Dr. Norton was a member of this Commission for seven years and later served as chairman from 1948 to 1950, during which time major reports were issued on *Education of the Gifted, American Education and International Tensions,* and *Moral and Spiritual Values in the Public Schools.*

emergency. These measures are inspired by the popular reaction to some passing but dramatic event. They are intended to be temporary, not permanent. Rather than contributing to the orderly evolution of the purpose and organization of education in the states, these laws may even distort this purpose and organization. These measures include much detailed prescription. The assumption is that the people of the states and localities lack either the wisdom or the integrity to achieve the basic purpose of the legislation. Such enactments show little conception of the nature of the national interest in education, and of the fact that this interest may be best served by maintaining a proper balance between national leadership and state control and administration of education. The virtue of this type of federal legislation lies in the belief that "it can pass Congress," not in its fundamental soundness.

The best examples of the first type of legislation for the promotion and support of education in the states were enacted early in our history and in the nineteenth century. The Founding Fathers, with rare prescience, saw the inescapable relationship between universal education and the great American Experiment. They embodied this vision in a noble statement of policy in the Ordinance of 1787. They gave this vision reality in a series of federal enactments to provide encouragement and financial support in establishing the unique American system of popular education.

In 1862 President Lincoln signed a bill providing for the establishment of a land-grant college in every state. This enactment, followed by measures creating agricultural experiment stations and extension service, is an outstanding example of fundamental educational legislation. Thus the nation assured itself that agriculture would be carried on by intelligent citizens and skilled technicians rather than superstitious peasants. This legislation largely accounts for the remarkable, even embarrassing, productivity of agriculture in the United States.

In more recent times we have had much federal educational legislation which far from matches, either in conception of purpose or in wisdom of legislative provisions, the examples cited above. Such legislation was rife during the depression of the 1930's. One recent federal measure made the schools adjuncts to the consumption of surplus agricultural products. A year ago both enthusiasm and opposition were generated for a pitifully small federal appropriation for school-building construction. This would have added 1 cent to each 40 cents already being spent for public education. One of its alleged merits was that it could be passed. But it was not.

Just now floods of educational bills are being introduced in Congress. Apparently the chief motivation behind this enthusiasm is the sputniks and the semi-hysteria which they have aroused. Suddenly a lot of people have realized that education is essential to national security. What is the character of the legislation which, during the first month of the current 85th Congress, Second Session, has been proposed in response to this realization? Let us analyze the more important measures.

THE BILL OF THE PRESENT ADMINISTRATION

The proposal of the Republican Administration in Washington in S. 3163 and H.R. 10,278 is an emergency four-year measure to meet "critical national needs." Title I of this Bill seeks to prevent the waste of student talent by encouraging the expansion and improve-

ment of state programs for: (*a*) the early identification of able students through improved counseling and guidance in high schools (it would require about $16 million of federal funds in the first year and $25 million in the fourth year); and (*b*) providing scholarships for college to able and needy students. This would require $7.5 million for 1959, rising to $30 million in 1962. It would provide 10,000 new scholarships (averaging $750) each year, reaching a total of 40,000 in four years.

Title II would authorize federal grants to the states to strengthen science or mathematics instruction in public schools. About $15 million a year would shore up state supervisory and teacher-training programs in science or mathematics.

An annual appropriation of $150 million would seek to strengthen science or mathematics instruction in public secondary schools by employing additional qualified teachers and increasing their compensation, and by purchasing laboratory equipment.

Title III of the Administration Bill would authorize: (*a*) grants to and contracts with institutions of higher education to train teachers and supervisors of modern foreign languages for public and non-profit elementary, secondary, and higher educational institutions; (*b*) centers for advanced training in foreign languages to meet the needs in this regard of the Federal Government and of business, industry, and education; and (*c*) studies concerning needed training and methods of instruction in foreign languages. The cost of the foregoing program would be about $1.3 million in 1959, rising to $3.25 million in 1962.

Title IV would assist institutions of higher education in preparing more college teachers by strengthening their faculties and by providing fellowships for potential college instructors, with no restriction as to area of preparation. The maximum federal grant to one institution would be $125,000 per year. Estimated total cost for the first year would be $7.8 million; $21.6 million in the fourth year. Under a policy of "building on strength," all graduate schools would be eligible.

Title V would provide funds to assist the states in improving statistical reports on education; involving $1 million in the first and $2 million by the fourth year.

The total authorizations for all purposes of the Bill of the Republican Administration, including expansion of the educational activities of the National Science Foundation, would be about $225 million for 1959 and $1 billion over the next four years.

POLICIES AND PROCEDURES OF ADMINISTRATION BILL

State Plans. The general policy of the Bill proposed by the Administration is to require each state to submit a detailed plan showing how the federal funds will be used to achieve the particular purpose involved. These plans must be explicit on a number of points, ranging from those setting forth the state's program and methods for fulfilling the purpose of each grant, to the accounting, budgeting, and other fiscal procedures to be followed.

Special Advisory Commissions. In several instances the Administration Bill would require establishment of national advisory commissions or committees; for example, those on Federal Scholarships, on Foreign Languages, and on Graduate Education. The special agencies would exercise substantial advisory functions, and sometimes semi-administrative powers, in the development of state plans and in other respects.

Basis of Allotments. The federal allotments to the states would be on the

flat grant basis; that is, so much per pupil, student, or whatever unit of cost is involved. The state grants would not involve "equalization"; that is, taking account of differences in state tax ability. In some cases grants or contracts are to be determined by the U. S. Commissioner of Education "on such conditions as he deems appropriate to the purpose of the legislation."

Basis of Scholarship Awards. Within the limits of a state's allotment, the Commissioner would award scholarships to individuals certified to him by the State Commission. Applicants whose ability qualifies them to receive scholarships, but who are denied them "solely because of their lack of need for financial assistance to continue their education" would be awarded "appropriate certificates by the Commissioner." Those receiving scholarships also would get certificates.

Matching of Federal Funds. The Administration Bill would require that federal grants be matched by equal expenditures by the state or other educational agency receiving the grant.

Certain Other Provisions. The U. S. Commissioner of Education would be authorized to withhold funds, after a hearing, if he finds that the state or other educational agency involved has not complied with the requirements of the legislation. Appeal from such decision could be carried through the courts up to review by the Supreme Court of the United States.

The Commissioner would be authorized to make studies and carry on research bearing on the purposes of the legislation. His numerous responsibilities and duties, under federal executive organization, are to be discharged under the direction of the Secretary of Health, Education, and Welfare.

THE DEMOCRATS' BILL

Senate Bill 3187 and House Bill 10,381, which are essentially duplicates, were introduced respectively by Senator Hill and Representative Elliott, both Democrats. This extensive measure of more than 70 pages seeks to strengthen the national defense and to achieve other worthy purposes through educational means. It assumes that its projects will continue for six years.

Title I of the Hill-Elliott Bill contains declaration of policy concerning the relation of education to national security and prohibiting federal control of education in the states.

Title II would authorize 40,000 four-year undergraduate scholarships to be awarded each year for six years (making a total of 240,000) for the education of selected college students. Some 75 per cent of these would be for study of the sciences, engineering, mathematics, and foreign languages. Each scholarship would amount to $1,000 a year for no more than four academic years. In each state a Commission on Scholarships would be set up in connection with the planning of this program.

Title III would authorize $40 million annually for six years for loans to college students of superior capacity, selected by State Commissions, with preference to those in science, engineering, mathematics, or modern foreign languages. Loans would not exceed $1,000 a year, at a 2 per cent interest rate. Loans would be canceled for service as a full-time teacher in an elementary, secondary, or higher education institution in a state, at the rate of 20 per cent of the amount of such loan plus interest for each complete academic year of service.

Title IV would authorize $25 million for each of six years to enable the

Commissioner to make grants to institutions of higher education for work-study programs for undergraduate students; the employment to be related to their fields of study and to the operation of the institution.

Title V is in two parts. It would provide funds for specialized equipment, textbooks, and other materials for teaching science, mathematics, engineering, and modern foreign languages.

Part A would authorize $40 million annually for six years to state educational agencies for this purpose. Part B would appropriate $40 million a year for six years for similar grants to institutions of higher education.

Title VI would authorize $75 million for each of six years to pay part of the cost to teachers for advanced study in summer sessions of institutions of higher education. This Title also would authorize $25 million for each of six years for advanced study by teachers in extension courses. In both of the foregoing, those selected would be full-time teachers in elementary and secondary schools. Special consideration would be given to those studying in science, mathematics, and modern foreign languages.

Title VII would authorize an unspecified amount for National Defense Fellowships for the next six years for advanced study by selected university-level teachers in fields determined by the National Advisory Council on Science and Education. (A later Title deals with the creation of this Council.)

In addition this Council is to assist the Commissioner in the preparation of regulations for this Title and is to establish panels of persons, expert in the fields in which fellowships are being awarded, to advise the Commissioner with respect to the selection of persons to receive such fellowships.

Stipends under this Title begin at $2,000 for the first year of academic study and rise to $2,400 for the third year. In addition to the foregoing amounts, those awarded fellowships would be paid up to $1,000 a year of the actual certified cost to such institutions of providing the program of studies or research for which such fellowships are awarded. Under this Title, and also under Title VI, the stipends are increased a specified amount for each dependent of those awarded fellowships.

Title VIII would provide for guidance and counseling. Part A would authorize $15 million a year for grants to state education agencies to assist them in maintaining programs of guidance and counseling in secondary schools. Part B would appropriate $6 million annually for the purpose of establishing, in institutions of higher education, summer session courses in counseling and guidance of high school students. These institutions would receive payment of cost incurred. Teachers in public school systems enrolled in such courses would receive stipends at the rate of $75 per week. Part A operates under state plans approved by the Commissioner. Under Part B, the Commissioner contracts with institutions of higher learning.

Title IX of the Hill–Elliott Bill would authorize $10 million a year for grants to state educational agencies to employ consultants who would establish programs to improve the qualifications of high school teachers in the fields of science, mathematics, and modesn foreign languages.

Title X would establish in the Office of Education an Institute for Research and Experimentation in New Educational Media—television, radio, motion pictures, and related media. It would set up an Advisory Council on New Educa-

tional Media to approve grants-in-aid and contracts made by the U. S. Commissioner. It would also authorize purchase of audio-visual materials for use in elementary, secondary, and higher educational institutions. A beginning annual appropriation of $5 million, and $10 million for each of four succeeding years would be made for the foregoing purposes.

Title XI would award a "Congressional citation for outstanding scholastic achievement," with medal and scroll, to high school students of each state who rank scholastically in the highest 5 per cent of their graduating class.

Title XII would assist the states in providing needed vocational education of less than college grade in occupations essential to national defense. This would add an appropriation of $20 million to the original Vocational Education Act of 1946.

Title XIII would provide for a number of routine regulations concerned with the administration of the Act. It would also establish a National Advisory Council on Science and Education, consisting of the U. S. Commissioner of Education as chairman, the Director of the National Science Foundation, and twelve members appointed by the President with the consent of the Senate. This Council would assist and advise the Commissioner on matters of basic policy in the administration of this Act.

The Hill Bill as opposed to the Elliott Bill contains a Title dealing with a Science Information Service. This would be established by the National Science Foundation to provide for indexing, abstracting, translating, and disseminating scientific information, including the development of mechanized methods by which such information can be made available.

POLICIES AND PROCEDURES OF HILL-ELLIOTT BILL

The Hill–Elliott Bill is considerably broader in scope than the Administration measure. It would authorize substantially larger appropriations, generally for six rather than for four years. It is less prescriptive at certain points. It is similar at a number of points in general policy and administrative procedure.

One notable exception is that the Democratic Bill contains a section prohibiting federal control of education, which is omitted in the Republican Bill. This section has been included in a number of federal educational measures in recent years:

> Nothing contained in this Act shall be construed to authorize any department, agency, officer, or employee of the United States to exercise any direction, supervision, or control over the curriculum, program of instruction, administration, or personnel of any educational institution.

Approval of State Plans. The Hill–Elliott Bill contains provisions for state plans or similar arrangements to be approved by the U. S. Commissioner to govern the administration of various parts of the Act.

Establishment of Commissions. The Bill would establish several special commissions with varying powers. For example, the National Advisory Council on Science and Education would have substantial powers.

Basis of Allotments. Allocations to the states are generally on the flat grant basis in accordance with the proportion of pupils, students, and persons in the state to the total in the United States. In the case of Title V, Part A, account is taken of the relative ability of the states to finance education as indicated by personal "income per child of school age."

Matching of Federal Funds. In some cases the federal appropriations must be matched by the states, and in others this requirement is omitted.

Judicial Review. This Bill contains the same provisions for judicial review of decisions of the Commissioner of Education as the Administration Bill.

BASIC EDUCATIONAL POLICY AND PROCEDURE

The basic weakness of the two bills analyzed above is that they are a product of events of the moment, rather than the reflection of a mature national policy for education.

Who can believe that either of these bills would now be before Congress if the sputniks had not been launched into outer space? Less than a year ago legislative and administrative energy in Washington focused on a bill for "federal aid for school construction." Now from both political parties come bills which bear no remote resemblance to the ones fought over in the previous Congress. Why the sudden switch? Is it based on fundamental considerations, or upon passing events which for the moment claim public attention?

The school construction measure of a year ago might have done some good. Fiscally, however, it was a penurious, little proposal. To every $40 the hard-pressed boards of education of the United States already had to spend, there would have been added a dollar.

The two bills analyzed above, to be sure, include a number of items which are essential parts of a break-through educational program. More scholarships are indispensable if the tens of thousands of able youths who terminate their schooling prematurely, partly or solely owing to lack of family resources, are to obtain the advanced education which national security demands. Something radical must be done to stop the waste of talent which is now primarily responsible for shortages in skilled manpower, not only in science but also in many other fields.

Certainly we need more and better-prepared teachers in science, mathematics, and modern foreign languages.

The student loan part of the Hill–Elliott Bill is a desirable supplement to a scholarship program. The work–study item in the same measure is both imaginative and desirable. It would provide educational institutions with valuable service, students with financial help and worthwhile experience in their fields of study, and would make the cost of their schooling less a gift and more an earned benefit.

The provision of science teaching equipment would help to remove a major handicap in this field; namely, lack of money for expensive up-to-date, but essential, laboratory facilities.

Funds to enable higher educational institutions to prepare more teachers of science, mathematics, and language are badly needed. The cost of advanced training cannot be met wholly by teachers, as the legislation recognizes. This is particularly true as long as the Federal Government stubbornly refuses to recognize expenditure for this purpose by the teacher as a deductible item on his income tax form.

Better guidance and counseling are essential. Parents and students need more valid information and advice than are now provided in planning the careers of the ten million students enrolled in high schools and colleges.

Undoubtedly, the legislation in the Hill–Elliott Bill of the Democrats and in the Smith–Hearns Bill of the Republicans contains features which in themselves are desirable. Considered as a whole, how-

ever, neither bill is at all adequate to meet either the immediate or the long-term educational needs of our country. This applies more to the Republican than to the Democratic bill, but it is true of both bills. Why is this so?

The proposed legislation is not the reflection of a national policy for education, based on available research and mature deliberation as to its meaning. Rather, it is a response to a dramatic event which has currently captured the attention of the people. The sputniks triggered this legislation.

Why should the big idea in federal educational legislation be school construction in one year while in the next it is cast on the legislative scrap heap, and an entirely different measure claims the attention of Congress and the Administration? It is because opportunism, not mature policy, dictates federal relations to education.

The proposed legislation fails to face the inescapable fact that the so-called "failure of education," so much heard of today, is primarily a result of financial starvation of our schools and higher educational institutions for more than a generation, and especially during the past decade. The factors responsible for this malnutrition are clear. They are the rapidly mounting student enrollments, particularly in the upper and more expensive years; the decline of property, the principal source of educational support, as an adequate tax base; the fabulously costly advertising campaigns which have cajoled the public into paying for longer, wider, over-garnished and over-powered automobiles and many other expensive luxuries which are much less essential than the schooling of children and youth; the incessant propaganda to slash taxes, often regardless of the effects on indispensable public services such as education; and the pre-empting of 75 per cent of all public revenue to meet the fabulously expensive federal bill for past wars, military preparedness, and other national services.

Congress has recognized the impact of federal fiscal action in some communities. It has provided substantial support for education in several hundred "federally affected" communities—those with swollen school enrollments and lessened taxable resources resulting from federal establishments and war preparedness industries. The impact of federal budgets of $72 billion, however, is even more severe on thousands of local communities less able to meet the cost of rising school enrollments than on the comparatively well-off federally affected areas. In the bills discussed above, Congress has taken little account of the fact that all local communities are "federally affected" today. They will continue to be so affected, unless there is compensating federal action for support of education.

There are a number of measures which must be taken to provide the quantity and quality of education which national security and progress require. One indispensable requirement, however, is money. Without money most other steps will be futile. The teacher shortage and the school-building shortage are a consequence of insufficient financial support for education.

More school revenue can and should be raised by the states and localities. The evidence more insistently testifies each year, however, that better local and state support alone cannot do the job. Such support must be encouraged by imaginative federal leadership, supplemented by substantial federal support.

What would be gained by flooding the schools and colleges with more students by means of scholarships, loans and

work-study help, good as they are in themselves, if there are too few qualified teachers to teach these students?

In 1950, 9,096 fully qualified science teachers graduated from our colleges; in 1956 only about 5,000. But this is only half the story. Of the college graduates who prepared to teach science, for example, only 60 of each 100 actually accepted teaching positions.

The median salary for beginning secondary school teachers in the United States is $3600 a year; for beginning engineers in industry, $5200.

In these facts is found the real cause of the shortage of qualified teachers, not only in science, mathematics, and foreign languages but in nearly all subjects at all school and college levels.

Industry receives billions of dollars of "federal aid" each year in the form of government contracts for military preparedness and other purposes. School districts receive no such contracts. They must compete against the Federal Government in raising money for the schools, and against federally financed industry for personnel to staff the classrooms. It is an uneven struggle. The financial crisis of the schools is rooted in the combination of circumstances described above.

Economists testify that the nation has fully adequate ability to finance an educational program appropriate to our times. They say that the real problem is one of adopting fiscal methods whereby a sufficient portion of this ability may be allocated to education.

The bills discussed above do not face these inexorable facts. Their emphasis is primarily on keeping more able students in school and on training more teachers. These aims, good in themselves, will worsen rather than improve the situation if there is not enough money to employ qualified teachers for the increased number of students.

The yearly appropriation proposed by the Administration bill has been headlined as a "billion dollar measure." Actually, the first year's appropriations would total $225 million. A part of this, however, is for present and increased appropriations for the undertakings of the National Science Foundation. The President's measure requests only $145.5 million of new money grants to education in the states. This is less than half the meager $325 million which was proposed for school building construction in the states by the administration a year ago. To each $1.00 being spent for public schools, the Administration bill of a year ago would have added 2.7 cents; the current bill would add 1.2 cents. The Hill-Elliott Bill would add about 3.5¢. The insufficiency of these pittances to make any substantial impact on the financing of education is evident.

The proposed bills are questionable in other respects also. They generally allocate federal funds to the states on a flat grant basis; that is, a state receives the proportion of any appropriation which its student enrollment, or other unit of need, bears to that of all states. This would be all right if the total of the appropriations was substantial. But it is not. Hence, through equalization, the money should go where it is most needed. It would do the opposite.

A function which the Federal Government alone can exercise is action to lessen the wide differences in ability to finance education in the states. It alone can establish an acceptable floor of financial support under the schools in all states and localities. Disparities in ability to finance education negate equality of educational opportunity. They are primarily responsible for the slum areas of American education. The critical school problems of New York and other great cities have their roots in these areas. Penalties of ed-

ucational neglect cannot be quarantined. They cross state lines to plague rich as well as poor states. They cost less in money and endanger national well-being less seriously if dealt with through preventive rather than curative measures. These basic considerations find limited expression in the proposed bills.

Again, both bills are unduly restrictive and prescriptive. They are restrictive in that they wholly or largely limit funds to such subjects as science, mathematics, and foreign languages. On what evidence is this preference based? Are these fields more important than those which provide the foundation for intelligent citizenship in this complex, fast-changing period?

Probably most serious, the bills would launch the Federal Government into a policy of control of the program of instruction and educational personnel in the states. What else could be the effect of legislation which selects certain subjects and teaching personnel for financial and other preferment?

Every basic study of federal educational policy in the past generation has warned that federal action in the states should be confined to fiscal matters and avoid control over the curriculum and personnel of the schools. Yet the proposed legislation inherently, even though that may not be the intent, would be a major move in that direction by the Federal Government.

The two bills generally require that each state to secure the grants must draft a detailed plan, according to federal specifications, which must be approved by the U. S. Commissioner of Education or other federal authority. Currently there is protection against abuse of this power because of the quality of the present Commissioner of Education and Secretary of the Department of Health, Education, and Welfare. But education is not always so fortunate in its Washington personnel. Furthermore, in several instances special federal commissions and committees are set up in the legislation to exercise advisory and semi-administrative functions. Would this be one more step toward scattering educational responsibility in Washington as opposed to the coordination recommended frequently in the past?

It would have been far wiser to recognize that the citizens of the states and localities are keenly aware of the shortcomings of American education today. They have long been shouting them to deaf federal ears. Federal funds going to the states should establish a financial floor of support. The development of curriculum and personnel should be left to state and local boards of education and administrative offices.

PROGRAM OF NATIONAL EDUCATION ASSOCIATION

The legislative proposal of the National Education Association was anticipated in a remarkably fine statement issued by the Educational Policies Commission of the NEA and the American Association of School Administrators. This statement, entitled *The Contemporary Challenge to American Education*, deals with the role of education in the present world scene—as it has seldom been appraised in recent years—and points the way for federal action along lines which are both sound and courageous.

The Legislative Commission of the National Education Association has translated the program of the Association into more specific terms. This program has three parts: the short range, the intermediate range, and the long range.

For the short range, the emphasis is on

higher education, particularly at the graduate level, including opportunities in the fields of mathematics, science, and technology. The NEA advocates 80,000 college scholarships for undergraduate study, 20,000 each year for a four-year period. It also advocates 5,000 fellowships per year for graduate study, rising to 15,000 at the end of a three-year period. The scholarship awards would average $1,200 a year; and the fellowship stipends, $3,000 a year; the cost of these two programs would begin at about $40 million and rise to about $140 million annually in four years.

An intermediate-range program, according to the NEA, is needed at both secondary and higher levels to provide for recruitment, training, and retraining of teachers in most subject-matter fields, including mathematics, science, and foreign languages. Such programs would involve federal assistance both to training institutions and to students. The NEA warns, however, that federal legislation which would shift the salary levels of teachers of particular subjects, such as science, would have questionable effects on teacher morale and might cause other difficulties in local school systems.

The long-range needs of the schools are also stressed by the NEA in its legislative program, which calls for improvement of the underpinning of the entire enterprise of American education, beginning at its foundation in the elementary schools. It is proposed that federal grants be made to the states beginning at $1.1 billion in 1958 ($25 per school-age child) and increasing to $4.5 billion in 1961 ($100 per child) to be used to supplement salaries of public elementary and secondary teachers without restriction as to subject *or* for construction of school buildings. The states would be required to maintain established rates of financial support. Control of the school curriculum and school personnel would remain in the hands of local and state authorities. Federal control is specifically prohibited.

In support of this long-term program, the Educational Policies Commission states: "It is futile to expect that a multitude of small, limited projects can do much lasting good for American schools and colleges. The real need is for an infusion of public (at all levels of government) and private support on a massive scale. . . . The challenge before American education ought not, therefore, to be regarded as a matter of competition with Soviet science, technology, or education. The real challenge to America is to fulfill the great potential of her own ideals."

The proposals of the National Education Association are sound in a number of fundamental respects. They are based on a national policy for education which takes account of the educational needs of our society and the conditions which stand in the way of their fulfillment. It proposes a sufficient amount of federal support, on a minimum basis to begin with, but stepped up to a level which would have substantial financial effect. It is also enough to be a first step toward somewhat ameliorating the shocking disparities in school support among the states which now deny equality of educational opportunity. It would limit federal prescription to a minimum, and to the area of fiscal support as opposed to curriculum and personnel.

THE NEA BILL

As this article goes to press the NEA bill (H.R. 10,736) has been introduced in the House by Representative Metcalfe. An identical bill is being introduced in the Senate (S. 3311).

It should be noted that this legislation

differs in scope from the proposed NEA program described above. It is limited to the elementary and secondary school levels. It would authorize federal funds to assist the "States and local communities in remedying the inadequacies in the number of their teachers and teachers' salaries and the shortage in classrooms." The amounts authorized and methods of allocation to the States are essentially those described in the paragraph above dealing with the long-range needs of the schools as seen by the NEA. It is to be hoped that the other parts of the NEA program are to be incorporated in additional proposed NEA legislation or in bills which are introduced from other quarters.

Sputnik and American Education*

EARL J. McGRATH

EXECUTIVE OFFICER, INSTITUTE OF HIGHER EDUCATION
PROFESSOR OF HIGHER EDUCATION, TEACHERS COLLEGE

EVERY thoughtful American is properly concerned about the meaning of the Russians' dramatic success in putting a satellite in orbit 560 miles from the surface of the earth. Many are worried about the military significance of this epoch-making feat. They foresee hydrogen bombs being dropped from a similar instrument into the midst of our cities and the devastation and death of Hiroshima multiplied a thousand times. They share a common humiliation in the realization that our nation, which has boasted the greatest wealth, the most education, and the largest force of skilled workmen, has been forced into second place in at least one very important area of science and technology.

There is no question that being outstripped by the Russians in these scientific developments has placed us in a weakened military position. The Gaither Committee says that the nation is in the "gravest danger in its history," exposed as it is "to an almost immediate threat from the missile-bristling Soviet Union."

An equally serious loss is the damage to our prestige in the family of nations. In terms of status and the ability to gain the support of other nations through admiration or intimidation, the Russians have made a grand slam.

Yet Russia's launching of Sputnik may be a real boon to the United States. It should make us realize that in one realm of creative intellectual endeavor at least one nation has surpassed us. It should warn us that the present dramatic success of the Russians in the science of space is probably only the forerunner of many others equally impressive. The Russian intention to surpass us in other scientific fields is made abundantly clear in the recent statement of Alexander N. Nesmeyanov, chairman of the Soviet Academy of Science, who said that "great efforts are still needed to beat the United States on all scientific fronts." It should make us realize, therefore, that no emergency program in one intellectual sphere will quickly re-establish our scientific supremacy, for the Russians are doubtless already husbanding a large stock pile of new ideas and plans to accelerate their scientific advance.

As is our custom as a people, we think immediately of a crash program, an intensive and arresting effort to deal swiftly with a serious problem. Our government must, of course, give prompt attention to plans for re-establishing our competitive advantage in the military arena. We must exploit quickly all the

* Dr. McGrath was U. S. Commissioner of Education, Office of Education (now the Department of Health, Education, and Welfare), from March 1949 to April 1953. He was President and Chancellor of the University of Kansas City, Missouri, September 1953-1956.

scientific knowledge and skills available in the production of weapons of offense and defense.

Fortunately, however, our people are exhibiting an immense amount of good sense in recognizing that the solution of our present difficulties related to Sputnik calls for something more than larger funds to build bigger and better satellites. Even though not in possession of all the facts, our citizens intuitively realize that the causes of our inadequacy must be fathomed in more complex social forces. While making every effort to defend ourselves militarily, it is with matters of social values, political institutions, and educational practices that we must be primarily concerned if the gap between our own scientific developments and those of Russia is to be closed. Only thus can we be certain that the next generation, now in our schools and colleges, will not find itself more embarrassed on the international scene and more insecure at home than our own.

We cannot use Russian methods to overtake them.

In dealing with the present situation the first major fact to be recognized is that we cannot match the Russians in science and technology, or in any other endeavor, by adopting their own practices. To the extent that we ape them we will be losing the cold war by turning our own democratic state into a totalitarian society, as we began to do under McCarthyism. The spectacular speed with which the Russians have been able to outstrip us in some areas of science can be explained in large part by the power Soviet leaders have over the private lives of the Russian people. Unlimited money can be poured into salaries, buildings, libraries, and equipment. Individuals can be tested, classified, and ordered into any program of studies deemed by the leaders to be of use to the state.

We can do none of these things. To the extent that we adopt such measures we become a totalitarian society. In the present situation, therefore, we cannot through the powers of the state dragoon scientists into government research and the production of satellites. We cannot arbitrarily restrict the production of consumer goods in the interest of a military build-up. We cannot commandeer students into classes in science or engineering, without regard to their personal occupational choice. To do these things even in the emergency we now face would be to abandon our most cherished personal freedoms while embracing the most repugnant controls of totalitarianism. Reason and persuasion, not coercion and control, must be our methods. Hence the success of our efforts will depend upon the promptness and effectiveness with which our officers of government make known to the public generally the exact situation in which we now find ourselves and the sacrifice of luxuries, comforts, and treasure required to meet this emergency. To this kind of candid appeal our people will, as they have in the past, respond with unselfish dedication to the task at hand.

Within the context of our pattern of living what can be done to meet the present challenge? More importantly, what can we do in education to guarantee an adequate future supply of an intellectual elite in all phases of our national life?

In all the efforts to strengthen our position in science vis-à-vis the Russians, one concept should dominate our planning. There is great danger that in our eagerness to move forward rapidly in science and technology we will neglect

other branches of learning that are no less important in a democratic society. There is reason to believe that the Russians are using a disproportionate share of their national resources for education in science, with a consequent impoverishment of the humane disciplines which constitute the enduring basis of our culture. Such policies involve less danger in a totalitarian society in which large social policies are laid down by a small directive class. In a nation like our own, however, which from the beginning has depended upon the general enlightenment of the people for wise decisions on social and political matters, a broad education in all the major branches of knowledge is indispensable to the health of the nation. Moreover, the enrichment of life for the individual depends no less upon his acquaintance with the literary, artistic, and philosophic heritage of western and other civilizations. Though it may be necessary in the present emergency to attract more students into scientific fields and to spend an excessive proportion of our resources for scholarships, teachers, buildings, and equipment related to science, the ongoing educational program must maintain a proper balance of learning for all enlightened citizens.

There can be no crash program in education.

In considering the steps to be taken in the academic world in the immediate future, it must be recognized at the outset that there can be no such thing as a crash program in education. Education is a slow process at best and, regrettably, we have not been operating our educational system at its potential best. Within limits, learning can be speeded up by exceptional teaching, increased motivation, and wise guidance, and students can be saturated with facts in a relatively brief time. But these processes do not cultivate the powers of reflection, imagination, and reasoning without which one can hardly be called educated. Moreover, these attributes of mind are the very qualities needed in the kind of basic scientific research which has given the Russians their present lead.

The nearest thing to a crash program one can hope for, then, is limited to the shifting of persons with the necessary advanced education and research experience from activities of relatively low value in the present emergency to those of high priority. These efforts can be accompanied by acceleration of the education of those who are near the end of their advanced formal education. The great benefits which would automatically flow from an improvement of education at the lower levels must be scheduled in terms of ten to twenty years. The recent drastic proposals for changes in the content and methods of education in our elementary and secondary schools, even if they had merit (and many have none), would not help in the near future. Some, for example, are proposing more science and mathematics from the early grades through high school, heavier assignments in school and out, more rigorous discipline throughout the system, required instruction for all in science and mathematics through the college years, elimination of vocational studies, and a host of other panaceas. Whatever their merits, none of these suggestions will help at all in the present emergency.

The men and women who contributed most to the recent startling scientific accomplishments in Russia were not school boys or even recent graduates of the universities. They were scientists ripe in learning, mature scholars capable of doing and understanding the most advanced research. Though a few may have been

relatively young, the educational programs they had completed beyond the elementary school would cover not less than twelve years and usually much more, to which several years of research experience were doubtless added. It is obvious, therefore, that proposals, however meritorious, relating to the early years of schooling can be of little help in offsetting the initial advantage which Russian scientists now apparently hold.

We must shift scientists from nonessential activities.

The only way to increase the quantity and quality of basic research in the immediate future is to make better use of the scientists already capable of adding to the store of theoretical knowledge. This plan would involve identifying the persons who have already had the essential formal education and moving them into research work related more closely to the national welfare than their present activities.

There has been much talk since World War II of the shortage of engineers and scientists. No doubt there are such shortages in some branches of business, industry, government, and the universities. Yet there is considerable evidence that if engineers and scientists were more effectively used these shortages would markedly shrink. Even though shortages do exist, figures provided by the National Research Council for the years 1945 to 1955 inclusive show that 1,762 persons received the Doctor of Philosophy degree in mathematics, 4,175 in physics, and 9,027 in chemistry in the universities of the United States. In the same period, several hundred thousand degrees in engineering were awarded. There is no way to determine the intellectual quality of these persons, or to compare it with that of Russian scientists. How many of our scientists are capable of genuinely original research no one can say. It is certain, however, that a large percentage of very high-grade scientists have been trained for research and are now employed in some branch of our economy.

The significant fact is that too few qualified scientists have been engaged in research even remotely related to the chemical, physical, or mathematical problems involved in satellite development, or in any other efforts to advance theoretical knowledge. Indeed most of them are not engaged in any investigations which could conceivably result in a major break-through in theory. Many are devoting their intellectual energies to perfecting new television apparatus, discovering more effective detergents, or developing more resilient automobile springs. Russian scientists, on the other hand, have been driven into pure research by the authority of the state or lured into it by large financial rewards and high social status. In this country the salaries paid to scholars and the relatively low prestige of the intellectual have forced many of our best scientific minds into industry. There the financial reward is from two to five times that of university teachers and research workers, and there they can avoid the opprobrious terms "intellectual" or "egghead." The first critical factor in our present inferior position is clearly a matter of values, the things we prize enough to pay for and to honor. When we consider Sputniks and all the other potential products of theoretical science as valuable as new automobiles and improved nylon stockings, when we respect intellectual accomplishment, then we will be able, with our enormous wealth and educated manpower, to resume the lead in the world of science and in other cultural enterprises.

Until a well-planned, long-range educational program has redressed our present weaknesses, drastic decisions will have to be made by our government and by our people regarding the place and the use of scientists in our society. For years there has been a roster of scientific personnel in this country. The amount and kind of their education, their present place of employment, the type of work they are engaged in, and a host of other relevant facts are available. If, as Dr. Teller says, we are ten years behind the Russians, the government ought at once to canvass our needs for scientists and establish procedures for shifting them from activities with relatively low social value to those which could restore our scientific supremacy.

Unlike the Russians, we cannot order scientists to leave industrial, teaching, or governmental research of certain types and to enter upon others closely related to the national welfare. We can, however, publicize the need, exhort industries to release such persons as are qualified and required, and provide salaries and working conditions which will attract the most imaginative minds and the most dedicated scholars. A mustering of the large corps of talented scientists already available will carry us through this trying period until a larger group of promising young scholars can be recruited and trained. The strongest argument with industries should be that the practical problems with which they deal can only be solved and new processes and products developed on the basis of pure research which at the outset may appear to have no immediate value or purpose. In a nation as wealthy as the United States there is, of course, no reason why the supply of scientists and all other highly educated personnel cannot be adequate to all the needs of industry, government, and the universities. But even with clarity of purpose and energetic efforts, this goal cannot be reached for ten or fifteen years because of the time required in the process of education.

The graduate student must be better paid.

A second effort to produce an early increase in scientific personnel relates to the salaries of graduate students and professors. Through the National Science Foundation and some corporations a considerable number of well-paying fellowships have been provided for graduate students of small means. Those granted by the many corporations, however, are frequently restricted to use in research projects connected with the production processes in specific industries. Hence the type of investigation needed for the expansion of theoretical knowledge in mathematics and science, the new body of knowledge from which satellites are born, has not been sufficiently supported. For the same reason, it would be unwise to focus too sharply on our scientific needs related to satellites. It is important to remember that the Russians are, as Dr. Nesmeyanov says, working as diligently in other scientific fields, such as biology and nuclear physics, as in astronautics. Since we do not know the areas in which new scientific developments may occur in Russia, both industry and government must contemplate large-scale support of a well-rounded research program.

Fortunately the fellowship program of the National Science Foundation and some of the military research programs have had this broad objective in view. The stipends awarded to graduate students, most of whom are married and have families, must be the equivalent of full-time salaries so that the student will

neither be delayed in his education by outside work nor harassed by privation and insecurity. The salaries of Fellows of demonstrated promise should be from $5,000 to $10,000 a year for a period of three years, or even five if a particular research project requires a longer period to be brought to completion.

Professors' salaries must be doubled.

The low financial reward for those who teach and do research is another real bottleneck in scientific development in the United States. Indeed, this factor is the basic cause of the crippled condition of our educational system from the first grade through the graduate and professional schools. But in the fields of mathematics and science the situation is particularly acute because the competition for the ablest scholars is intensified by opportunities in government, business, and industry. Most college and university presidents have had a science teacher ask to be released from his position because he has had an offer in industry. Since the salary would be twice or three times as large as his academic compensation, he feels he cannot turn the opportunity down. He generally adds that he likes academic life, but that he has to consider the welfare of his family. On an academic salary he finds it impossible to buy a suitable house, carry adequate insurance to protect his loved ones, take a vacation, or send his sons and daughters to college.

Seductive financial appeals from industry, where the higher salaries can merely be added to the cost of production and passed on to the consumer, or deducted from taxes, have resulted in the educational world's continuous loss of many of the most able, imaginative, and dynamic scholars. That so many able persons remain in academic work in spite of low salaries is testimony to their high-mindedness and their dedication to youth and to the nation. Until the professors who must produce the scientists the country so desperately needs receive salaries of from $25,000 to $30,000, roughly comparable to the compensation of their peers in the business world, the supply of top-flight scientists able to teach their successors and able to do research will simply not be available. The proposal that academic people ought to have larger salaries is neither new nor radical. Now, however, since the scientific achievements of the Russians have shocked our people into an awareness of the present danger, it may be hoped that concern for the national welfare will galvanize public leaders inside and outside the government into action to correct the present inequities.

Federal grants for salaries and for physical facilities.

In this connection it might be instructive to study the salaries and the social status of scholars in Russia to determine the possible influence of these rewards on the size and the quality of the academic guild. It is reported that Russian professors receive from five to ten times as much salary as ordinary workmen. In our country there is little difference between the two groups except in the cases of the most accomplished men and women in the world of learning. Since many universities are incapable of meeting their current financial obligations without large deficit spending, no spectacular increases in salaries can be expected without large additional resources. The Federal Government will have to provide a large part of these funds if the Russian lead in science is to be nullified.

Other policies of the government can

be equally effective in holding fledgling or mature scientists in basic research. In addition to supplying funds for satisfactory salaries for research workers, the government ought to develop long-range programs for the support of higher education involving substantial grants to universities for science buildings and equipment. Universities cannot be expected to bring into their faculties highly paid professors and to supply the needed expensive facilities on the basis of uncertain commitments renewable from year to year. The Congress has the power and the responsibility to make large sums available to institutions of higher education over a five- to ten-year period. If this were done, the income from government sources could be foreseen with reasonable accuracy and the financial obligations of these institutions stabilized.

Scientists must be free to investigate.

The Federal Government can also increase scientific production by adopting policies consistent with the nature of science and congenial to scientists' methods of working. Science flowers under conditions of unrestricted investigation and freedom of communication. Actions of government or of citizens generally which restrain the individual scientist's freedom of inquiry or the interchange of his ideas with other scientists impair the total scientific enterprise. In the present situation, such practices actually undermine the national welfare.

Some practices of Congressional committees and of the executive branch of the government have in recent years violated the basic principles of scientific inquiry. The motives and the patriotism of scholars have been impugned, their characters maligned, and their livelihood endangered by governmental bodies. Personal injury and the abridgment of constitutional freedoms have been accompanied by damage to our scientific efforts. These activities have doubtless driven out of essential scientific investigation many capable scholars. Nobody can possibly measure the damage to our national defense effort and to the well-being of our scientific enterprise caused by Senator McCarthy and his supporters. That it was considerable, however, no objective analyst of our present weakened position can doubt. Scholars must be freed from interference in their work and we need to reappraise the place of the intellectual in our society. The so-called egghead ought to be honored rather than lampooned. It is now literally true that only he can lead us out of our present dangerous situation.

Where have science leaders of the 1900's come from?

These proposals for immediate action related to the parts which industry, government, and citizens generally can play in strengthening the scientific enterprise should be paralleled by changes within the educational system itself. One such action is concerned with the graduate schools of universities, the institutions which produce scholars in all fields of learning, including the sciences and mathematics.

Since the beginning of this century our universities have produced many renowned scientists, among them Michelson, Millikan, Compton, Lawrence, and others who amply prove the point. But in terms of the percentage of our people who have had the advantages of higher education, the record compared to that of other countries is disappointing. When one reviews the major scientific advances since 1901, the achievements of Lorentz, Becquerel, Curie, Planck, Einstein, Bohr,

Heisenberg, Schrodinger, and Fermi make it obvious that until very recently the products of foreign education have occupied the center of the stage. Some of our own most distinguished scientists (Millikan for example) received their advanced education in foreign universities. Our failure to produce enough highly imaginative, inventive research scholars must in considerable part be the result of defects in our educational system.

American university education needs to be overhauled.

Weaknesses in the lower schools deserve serious attention. But the element of time demands that the shortcomings of graduate education be given first consideration. The plain fact is that graduate education in the United States has not sufficiently encouraged creative intellectual achievement. A significant percentage of those who obtain the Ph.D. degree are neither seriously interested in adding to human knowledge nor capable of doing so. Many of the practices and policies of graduate education encourage routine intellectual processes. As they enter upon their first test of creative intellectual ability, many students are given a problem closely related to a professor's own research. The techniques, apparatus, and library resources required to explore the problem are suggested by a senior research worker. In some cases much of the dissertation is written by the sponsor.

A few years ago the long-time head of a physics department in a prominent state university was asked what percentage of those who had received the Ph.D. in his time had had the imagination to find a problem worthy of study and had then carried their research project through to completion with a minimum of direction from a senior colleague. His estimate was one in ten. That this may have been a general situation is suggested by studies of the scholarly production of mathematicians and historians which show that only 15 to 20 per cent of those who receive the Ph.D. degree in these fields thereafter ever do any significant research. For too many, their professional education as scholars is not an exciting intellectual experience. It is not one in which the individual loses himself in a work of consuming interest. It is not viewed as it may well now be, as an effort which could determine the destiny of the nation and of the world.

The processes of graduate education are burdened with traditional and meaningless requirements. They include a given number of years of study in residence, the superficial study of foreign languages which almost none can then use, and a system of academic bookkeeping in which the number of hours of work completed in the classroom or laboratory, rather than measures of genuine intellectual growth and power, determine the outcome. These requirements, extraneous to true scholarship, dampen intellectual enthusiasm and standardize scholarly accomplishment. Additional handicaps are imposed by the student's needs to make a living through outside work.

As Dean Barzun of Columbia University has pointed out, these encumbrances and interruptions often extend the graduate experience to five, ten or even more years. And, more important, the total impact of this experience which should excite the intellect, quicken perception, and embolden the spirit of inquiry, actually often leaves the finished product weary in mind, body, and spirit.

The entire program of graduate education needs immediate reappraisal. Those

of superior intellectual gifts should be admitted earlier, unburdened of meaningless rules and regulations, freed from monetary worries, and charged with a passionate devotion to the search for truth. Though the immediate purpose in these changes may necessarily be the preservation of the nation, the long-range objective should be to create a generally more vital system of higher education. To gain this end will require, however, an overhauling of the entire structure and practice of graduate education in the United States, with the national interest taking precedence over vested academic interests. Tinkering will not do. To change the residence requirements from 60 to 55 credits, to permit graduate students to satisfy the language requirement by studying Russian instead of German, to raise graduate stipends from $2,500 to $3,000, and to make other trivial alterations will be to proceed in the laborious manner customary in academic life. The times urgently require a more critical assessment of present practice and a more dynamic program for its improvement.

The actions thus far proposed can be taken immediately to meet the Soviet challenge. In a period of from five to ten years they could result in a rapid acceleration of basic scientific discovery. Whether these changes can be speeded up in time to avoid a devastating attack on the United States is a question which only history can answer.

Only a long-range program, however, extending over a period of several generations, can vouchsafe a world in which our children and their children can enjoy the freedoms which we have known. The crucial element in any such program to strengthen the position of the nation in science, and in many other aspects of our common life, is the quality of our entire educational system. The people of the United States from the very beginning have had an abiding faith in the value of education. The constant extension of the opportunity for education to larger and larger numbers of youth is tangible evidence of this deep-seated conviction.

But our present embarrassment stems partly from the fact that this idealistic conception has not been matched by a willingness to pay for its realization. The actual amount in dollars spent for education of all kinds has increased from 6 billion in 1940 to nearly 16 billion in 1957-58. In the same period, however, the number of children to be served and the cost of operation have skyrocketed. The supply of teachers and buildings has not kept pace. A gradual deterioration of education for millions of children has been the result. In many communities half-day sessions, classes of 40 or more pupils, unqualified teachers holding only emergency certificates, classes in stores, factories, and church basements have been the scandalous order of the day. This educational privation is found primarily in the poorer states and communities. But in the past ten years, the press has carried many stories of wealthy communities in which school taxes and bond issues have been voted down, communities in which the two-car family, the well-filled wine cellar, and the summer home at the shore are typical rather than exceptional. The financial plight of many colleges and universities both public and private presents a similarly disheartening picture.

In attempting to place our scientific enterprise on a level with that of the Russians, to say nothing of improving the other essential social services which require advanced education, our first decision will have to be our willingness

to pay the bill. The Russians some years ago recognized that world supremacy in science could only be achieved by sacrificing other satisfactions in favor of more and better education. Comparable figures are not easy to obtain, but informed persons believe that the Russians are putting a much larger percentage of their available national resources into education than we are. In any event, our unwillingness to spend more than 3 or 4 per cent of the Gross National Product of over $400 billion for all forms of education is the seat of many of our present difficulties.

We will not come abreast of the Russians—indeed, we will fall further behind them—until the educational budget is materially raised. When teachers' salaries attract the most capable of our young people into the profession, when the school plant is modernized and equipped with tested teaching materials, when American children attend full-day sessions under skilled teachers, when the majority of our colleges and universities are no longer limping along on large deficits, when all young people of college age are able to get a higher education suited to their abilities, then we can expect the educational system adequately to serve our needs in the domestic and international spheres.

In recent years many voices have been raised in criticism of American education. Sputnik has orchestrated these voices in a chorus of lamentation. The main theme is that, because of modern educational theory, pupils in our schools have been encouraged not to study such difficult subjects as mathematics and the sciences. Statistics have been cited to show the falling enrollments in these subjects in our high schools. The most impressive and also the most misleading of these presentations appeared in *U. S. News and World Report* in a report of an interview with Professor Arthur E. Bestor of the University of Illinois. The statistics cited purport to show a shocking drop since the turn of the century in the percentage of high school students in the United States studying science (from 84 per cent in 1900 to 54 per cent in 1950) and mathematics (from 86 per cent to 55 per cent). Professor Harold C. Hand of the same university has shown, however, that the percentage of students taking science in high school has not dropped. On the contrary, the percentages have risen from 84 per cent to 98 per cent in science and from 86 per cent to 90 per cent in mathematics. Moreover, the high school population has increased from 519,251 in 1900 to 5,399,452 in 1950. A percentage of at least 90 in each subject in 1950 means a tremendous increase in the number of students studying these subjects. Even after eliminating those who have no special aptitude for, or interest in, a scientific career, this is a large reservoir from which to draw 10,000 potential Ph.D.'s in physics, chemistry, and mathematics, more than the total of Ph.D. degrees granted in these fields from 1945 to 1955.

The number should and could be larger, but there are several obstacles to the attainment of this goal. The first is the size of our high schools. In 1952, 824 high schools had fewer than 25 students. Thirty per cent had enrollments under 100. When these students are distributed over a four-year period, and the dropouts from the freshman to the senior year are taken into consideration, it is apparent that a large percentage of American high schools simply do not have enough students to justify offering instruction in the sciences, especially those requiring a laboratory. Even in advanced mathematics, the demand does

not warrant such instruction in many of the small school districts.

Furthermore, in small high schools it is not possible to have special teachers in chemistry, mathematics, physics, English, history, foreign languages, vocational courses, and the other subjects usually provided in a large comprehensive high school in an urban center. Consequently, teachers whose main interest and training are in literature or social studies may be required to teach science, and the instruction they give is sometimes inferior. The National Science Foundation has launched a number of programs to upgrade these teachers, as well as those originally qualified in science but whose training needs to be brought up to date on scientific developments.

For many years educators have earnestly urged the establishment of larger school units. They have tried to persuade school boards to consolidate ineffective small school districts to make possible larger class groups with special teachers in the various high school subjects. Many states have offered leadership and financial assistance to districts wishing to consolidate. The foregoing figures show that, because such consolidations have not been effected, many American youth have inferior or no instruction in some subjects. If a full complement of subject matter is desired, the establishment of larger high school units should be pressed with all vigor.

Educators have stated that one of the major obstacles to effective and interesting teaching of science in high schools and colleges is the lack of suitable technical equipment. Many high schools and colleges with small enrollments are deprived of such equipment because of its high cost. Here the Federal Government could do something concrete to help in the present emergency. Much teaching equipment for the sciences can be purchased in European countries for a fraction of its cost in the United States. Because of high tariff rates, however, these materials cannot be acquired at the lower price. Import duties are set as high as 50 per cent.

Efforts by a committee of the American Association for the Advancement of Science to get government action to reduce import duties on these articles indispensable in good teaching have been abortive. In spite of the fact that the total value of such materials constitutes only a negligible percentage of the annual volume of business of the American firms concerned, the latter have vigorously fought and lobbied against any change in the tariff on these articles. Here, again, it may be hoped that the urgent needs of the nation, dramatized by Sputnik, may effect what reason and importunity could not. If the United States Government is serious about its desire to advance the cause of science quickly and materially, a reduction in the tariff on scientific apparatus is an easy and inexpensive way to do so.

Even in the high schools where mathematics and science are now being taught, the number of students taking such courses can be significantly increased, and the quality of learning improved. Certain policies and practices have militated against a full enlistment of the interests of students who are capable of higher education, especially in the subjects with which we are now concerned. The preparatory basic instruction in some elementary schools has not been as effective as it could be. Hence some students come unprepared for and afraid of courses in the sciences and mathematics. Moreover, the reputation which these courses have in some high schools and colleges, because of uninspired and

uninspiring teaching, causes students to avoid them. The guidance programs in some schools fail to identify and guide promising students into the proper courses. The schools can do much to improve science teaching.

One of the most significant factors in this—the failure of students to elect science courses—is totally beyond the control of the schools. That is the attitude of parents. The fact is that some students, when possible, avoid subjects which require hard work and long hours of study. Too many members of the teaching profession have been more tolerant of this attitude than is good for the student or for the country. Often, however, the basic factor in the student's desire to take an easy course is the attitude of parents who do not want their children to do more than the minimum of study to get through. Many seem more interested in having their children get a diploma or a degree than an education. This point of view has been more influential in undermining standards of accomplishment and discipline in the schools than the philosophy of John Dewey. Dewey was an ardent advocate of self-discipline and the exertion of effort toward well-defined goals, as his own life so abundantly illustrated. He was opposed to dull routine, memorization of facts, and the authoritarian discipline imposed without reason. He rightly believed that learning was most effective when self-motivated.

Parents can inspire an interest in learning by valuing it as an indispensable element in a good life and a necessary factor in a healthy society. When parents are as proud of their son's grades in academic subjects as they are of his throwing the pass that won the game on Saturday or of his playing the trombone in the high school band, more students will study science as well as other subjects with greater interest and success. With full cooperation between teachers and parents, many additional students of appropriate abilities and interests will find their way into courses in science and mathematics and all the other fields of study of equal value in a vital and growing democratic society.

One proposal of increasing popularity to meet the shortages in the sciences involves requirements for all students in certain subject-matter fields. In its most extreme form, the several states are asked to pass laws requiring all students to study science and mathematics. This suggestion is ill-advised. In the first place, it is a modified form of the Russian system of regimentation and coercion, which is repugnant to Americans. Second, many students, by disposition and vocational interest, are unable to profit as much from this type of instruction as they could from others. Third, there is great danger that in the hysteria of the moment we will impose policies and practices which will make intellectual and emotional misfits of a considerable number of our people. We can also create a lopsided society in which science overbalances all the humane and social disciplines of equal if not greater value in the resolution of our domestic and international problems.

The alternative to a universal requirement is a sensitive testing of all pupils in the early years of schooling to discover their abilities and interests. This program needs to be coupled with an efficient guidance and counseling service to get students into a type of advanced education congenial to their abilities and conducive to satisfying achievement. Such a program will produce more and better scientists than compulsory study in fields for which the student has little aptitude

or interest. It will also produce a balanced supply of satisfied workers in all other fields which are equally essential in a dynamic and well-rounded society.

To provide the maximum number of superior high school students for higher education in the minimum time consistent with their abilities and their health, these students should be identified earlier than is now uniformly the practice. They should be guided into the courses needed for college admission, and speeded on their way to an even tentatively established educational goal. A mistaken notion concerning the nature of a democratic school system has operated to prevent the application of these conceptions in the everyday program of the schools.

Whether we like it or not, there are wide differences among students in ability, interests, and the desire to excel in intellectual achievement. No euthenic or eugenic program is likely to erase these human variations in the visible future. Some teachers and school administrators have adopted or condoned practices which seem to recognize these individual differences only at the lower end of the ability scale. They favor individual attention and special treatment for those of below average ability, and many programs have been established for this purpose. They have been less enterprising in recognizing students of unusual talents and less aggressive in providing special treatment for those who have potentially the greatest contribution to make to American society. Our people are ready for such developments. The quicker we identify the most capable students in all intellectual spheres and provide for them an accelerated and enriched program, the sooner the urgent national need for talented personnel will be met. Higher standards of accomplishment for the most capable will change education from a dull series of intellectual routines into an exciting adventure. Many parents will accept this type of accelerated educational program at this time, if its plan and purpose are made clear.

Applied to educational policies, this concept of requiring the best efforts of students in terms of their capacity means that those of ability should be moved forward intellectually toward an educational goal as rapidly as possible. They should be guided into as difficult studies as they are capable of mastering, and they should avoid subject matter which needlessly dissipates their time and energy. Specifically in the case of a boy or a girl who expects to enter a scientific field, the high school program should include four years of English, mathematics through trigonometry, three years of one foreign language, at least two years of science, and two years of social studies. This program would still leave two or three units for other electives. Most youth of college ability can complete such a program without harm to mind or body. Indeed, many would be better adjusted emotionally if they had a more demanding program of studies. A false notion has prevailed in the past two decades that exacting intellectual work leads to social and emotional maladjustment. There is no scientific basis for this belief. The difficulty of studies must be adjusted to the ability of students. Too easy a program is just as likely to cause maladjustment and unhappiness for superior students as too hard a program for those of limited intellectual abilities.

GENERAL SUPPORT OF EDUCATION REQUIRED

All the foregoing proposals, though they would provide a larger pool of qualified scientists, really leave the major

long-range problem untouched. The crucial factor in the shortage of trained manpower of all types which stems from deficiencies in our educational system is our failure to support education adequately. The education of our children, considered as a group, has been deteriorating since the beginning of World War II. There are, to be sure, many school systems in the United States in which fully certified, highly competent, enthusiastic teachers conduct their classes in up-to-date, light, fireproof schools with the best teaching materials available. As a result of the dedicated and patriotic efforts of Mr. Roy Larsen and his associates in the National Citizens' Commission for the Public Schools, many children have had better teachers in more modern schools than they would otherwise have had.

But in terms of the growing need for new classrooms and teachers, the national picture of inadequate support remains about as depressing as it was ten years ago. The story has been told so often in the press and on the air that it need not be repeated. It is enough to say that in September 1957 the United States Commissioner of Education reported the shortage of elementary and secondary school teachers to be 135,000. According to the figures supplied by educational authorities in the states, in the fall of 1956 there was a national shortage of 159,000 classrooms. If the fact that some classrooms now in use were built before 1900 is taken into consideration, this figure ought to be raised to 250,000, and the process of obsolescence continues apace.

Since hundreds of school districts have reached their legal debt limit, the school plant cannot be improved in the visible future without outside financial aid. As a consequence of these shortages, 800,000 students attended school only a half of each school day and 17.9 per cent of the elementary school classes in 1956 (the most recent figure available) had more than 35 children. In the cities of 500,000, over 8 per cent of the classes had 40 or more children. Moreover, thousands of teachers were on temporary emergency certificates, which means that they were unqualified in terms of accepted professional standards.

The consequences of our failure to provide the funds needed merely to bring the schools of the nation up to normal operating efficiency, with every child receiving instruction in an acceptably modern school plant under a properly certified and adequately paid teacher, are now becoming tragically apparent. It is in these shocking facts and figures that we should look for the causes of our weakening scientific position on the international stage. How can we expect pupils to learn as much basic arithmetic and science in half-day classes as in a full school day? How can high school students learn the fundamentals of science when it is taught in classes of 40 or 50 by teachers whose primary intellectual interests are in other fields, in rooms not designed as laboratories and not equipped with necessary teaching materials? How can teachers devote their undivided time, energy, and enthusiasm to their students when they must bring their incomes up to a living wage by driving taxicabs, selling insurance, or testing prisoners at odd hours in the local jail? It is just as foolish to expect children attending school half a day in classes of 35 or 40 taught by unqualified teachers to be educated for life in today's world as it would be to expect the Ford Company to produce the Edsel in the plant of 1920 with engineers educated in 1900 with the materials of construction used in the Model T. Yet this is the miracle some of

our citizens expect school officials to perform.

Many informed and patriotic educators and laymen have been aware of the deterioration in the school enterprise. They pointed out a decade ago that a child's education could not be put in a deep freeze for a period of years. Their exhortations have fallen on too many deaf ears among their fellow citizens. The saddest aspect of our educational inadequacy is not yet apparent to most citizens. The children whose early education was neglected in years past are only now beginning to show that they do not have the essential basic education for their further intellectual development. It is a national tragedy and a national scandal that little can now be done to repair these deficiencies. A considerable amount of the precious talent we need so badly in this hour has been lost forever by a callous disregard of the condition of our educational system. This situation is in strange contrast with the efforts the Russians have made to strengthen education by depriving themselves of many of the comforts, not to mention the luxuries, we take for granted. The disparity between our own efforts to provide basic education for all and the Russians' efforts will doubtless increase until a new generation of children passes through a strengthened and enriched educational program.

This objective can be reached only with the leadership and the resources of the Federal Government. Some local school districts and some states have adequate resources to raise teachers' salaries by 50 per cent and to erect the additional classrooms to accommodate the increased school population and to replace obsolete school plants. It is their patriotic duty to do so without delay. Their best efforts, however, will leave an enormous gap between the national need for improved education and our ability to provide it on a national scale. There is no necessity to recapitulate all the irrefutable arguments for federal aid for education. We have the necessary funds, as an impartial review of the economy conclusively shows. We lack only the will of the people at large to take this step through their representatives in Washington. Both Democratic and Republican administrations have for a number of years advocated various forms of federal aid. These efforts have been frustrated largely by skillful, powerful and high-paid lobbyists, and by the dissemination of false information among the people. As events now prove, these organizations and their richly supported lobbyists have been toying cavalierly with the welfare of the nation. It is to be hoped that if they are not shamed by the melancholy international events of recent months into a withdrawal of their opposition to federal aid, the people generally whose lives and welfare are in jeopardy will voice their views at the polls.

There is no way to calculate the exact amount of federal aid required to bring the school system of the nation to a level of effective operation. There is likewise no way to determine exactly how many missiles or other forms of weapons are needed to defend the nation against attack. This does not mean that we will delay missile programs until the last facts are available, because in a fluid situation they will never be available. Likewise, the national resources needed to provide the necessary highly trained manpower can never be precisely determined. A beginning must nevertheless be made at once on the federal level to meet the need that exists.

A modest program in terms of our national resources would be a billion dol-

lars a year for five years. Testimony over the past ten years in committees of the Congress shows conclusively that $500 million a year of federal subsidy of education within the states for current operating expenses would go far to bring teachers' salaries up to a level that would attract and hold competent and dedicated teachers. Testimony before the House Subcommittee on Education and Labor under Congressman Cleveland Bailey's chairmanship in 1957 revealed that $500 million a year of federal funds, matched by varying contributions of states according to their financial ability would in a few years erase a large part of the deficit in schoolhouse construction. If legislation could be passed in the next session of Congress, as it should be, embodying an aid program of this magnitude, the process of erosion of our educational standards would be retarded and eventually brought to a stop. With this assistance, local schools could restore their programs to a level of effectiveness consistent with our national status and honor, and with our declared purpose of providing full educational opportunity to all children, regardless of their social status or their geographical location.

Another effort to increase the pool of educated manpower can be made by the Federal Government through a substantial program of undergraduate scholarships. Numerous studies in the various states have shown that many of the upper 25 per cent of high school graduates do not continue their formal education. The majority discontinue because of lack of funds. Colleges and universities in a recent year used over $50 million of their own much-needed resources for scholarships. Some corporations and private individuals also provide large resources to assist worthy students. But there are still at least 100,000 high school graduates of high quality each year who would attend an institution of higher education if they had the funds.

In view of the national emergency, the Federal Government should establish a national scholarship program with 25,000 grants averaging at least $1,500, the amount in each case to be determined by the financial ability of the student. These funds should be distributed through state education authorities on the basis of the respective states' economic condition and the number of high school graduates. The total number of scholarships involved over a four-year period would be 100,000 with an eventual annual cost of $150 million, about half the cost of one aircraft carrier. These scholarships should be awarded to any qualifying student, regardless of his intellectual interests. If, however, it is necessary to use a large proportion of the funds available for science education for a period of years, a provision could be written into the law empowering the President to reserve a certain number of scholarships for students in scientific fields, including engineering. Since student fees do not cover the cost of education, and since colleges and universities are already in serious financial trouble, the institutions accepting these federal scholarship students should receive a substantial grant as well. The total funds involved should be about 50 per cent of the scholarship fund, or when it is in full operation, $75 million annually.

These proposals involve the expenditure of substantial funds by individuals, corporations, local school authorities, state governments and the Federal Government. The sums involved are, however, really very modest in terms of our national wealth and our expenditures for other forms of defense. The phrase "other forms of defense" is used advis-

edly, for the strength of our military effort and the economy which supports it flow from the education of our people.

Whether the issues are resolved on the battle field or in the council chamber, in the present conflict of ideologies and their economic and political systems, education will be the deciding factor. As never before, the United States needs the intellectual abilities, the clearness of vision, and the moral strength which only the fullest development of all the talents of our people can provide. The times demand a well-considered, long-range program continuously to achieve this goal.

Policies and actions based on expediency will do no more than restore in us the false sense of pride and security which has already brought us to the brink of disaster. The decisions which we now make regarding the character and quality of American education will in large measure determine our individual and our national destiny. We have thus far avoided the unpleasant responsibility of facing up to the decisions which have to be made and the price which has to be paid to provide an educational program appropriate and essential to the needs of a democratic society in an unprecedentedly dynamic world. We postpone the decisions further at our peril.

A Profile of Fitness in Education*

CLIFFORD LEE BROWNELL

PROFESSOR OF HEALTH AND PHYSICAL EDUCATION, TEACHERS COLLEGE

THROUGHOUT the country, school officials wrinkle academic brows in contemplation of demanded radical changes in educational affairs. Various publics insist upon, among other things, more science and mathematics, the elimination of declared "soft spots" in the curriculum that have crept in during recent years, and stricter discipline.

The search for persons responsible for this alleged sad state continues with more emotion than reason. Sometimes the finger of suspicion points toward teacher education. At other times school administrators, curriculum directors, and teachers find the accusation directed at them. In the attempt to fix responsibility, parents and taxpayers often blame boards of education, boards of education blame the superintendent, the superintendent blames school principals, principals blame teachers, teachers blame one another, and so on to completion of the cycle back to parents and taxpayers.

EDUCATION IN BROAD PERSPECTIVE

Within this climate of accusation and counteraccusation, certain truths appear self-evident. On the one hand, when the chips of critical evaluation are down, a substantial number of prominent educators contend that American schools today are the best in the world. On the other hand, many of these educators agree that mathematics and science should receive increased emphasis in schools and colleges, especially for gifted students. Furthermore, a majority of informed educators accept the premise that students in public schools need broad experiences that help them live fuller and richer lives in homes and communities. These experiences include, besides mathematics and science, the communication arts, fine arts, industrial arts, home and family living, how to maintain robust health and fitness, how to enjoy increasing hours of priceless leisure, useful citizenship, the world of music, the true significance of work, learning how to make a living, and others.

The obvious essentials of learning experiences in any area listed above, if properly taught, represent neither snap courses nor fads when weighed in the balance of education that functions in the lives of people. Take, for example, acquiring the knowledge and skill to manage a budget for a family of five on a weekly income of $60; or planning a suitable recreation program for the home community.

Educators and others regret the lack of discipline which, in some congested cities, approximates youthful terrorism.

* Professor Brownell is Head of the Department of Health Education, Physical Education, and Recreation at Teachers College, and a Member of the President's Citizens Advisory Committee on Fitness of American Youth.

One sometimes hears the view expressed that athletics constitute the last resort of discipline in schools and colleges wherein team members must follow training rules, maintain a high standard of fitness, abide by the rules of the game, and strive for best group interests without personal favor or privilege. Thus a person often learns self-discipline best in connection with experiences outside himself that have meaning and significance for him, rather than in the vacuum of academic subject matter.

Surely the changing culture places complex demands upon education to provide broader learning experiences for youth, often including activities for which the home and other agencies formerly accepted obligation. Many of these subjects or programs no longer belong in the category of fads or frills or fringe areas; they deal with life as youth lives it now and as he prepares himself for happy and successful adulthood in terms of standards approved by the prevailing culture.

Educators believe firmly in the need for inspired teachers with improved preparation and the ability to kindle the interests of youth in a variety of subjects or programs accepted by society as integral and interrelated parts of sound and total education.

Perhaps the renewed public concern about education will produce beneficial results in the years ahead. Much depends upon leadership and statesmanship which will guide public opinion in the right direction. The American people, by democratic process, have shown again and again their ability and willingness to choose the right course of action when given the opportunity to learn the facts and appraise the consequences. This truism has led to a widely accepted administrative policy that the community can have the kind of schools it wants and is willing to pay for; and a corollary policy that communities usually find a way to have the kind of schools they want.

In reaching these important decisions, communities must depend upon the guidance of competent educators who point the way by viewing the child or adolescent in his entirety as a biological organism living in a social world of complex freedoms and restrictions. And the wide variety of basic knowledge, attitudes, habits, and skills he acquires as a child or an adolescent best predicts the kind of adult he will become. School authorities who recognize the phenomena of normal growth and development, and who take into account the significance of individual and social needs, seldom persist in the dichotomy of mind and body. Insofar as youth is concerned, biological urges usually constitute more fundamental drives than adult-imposed standards. Education functions best when it includes experiences that attempt to reconcile nature and nurture. Thus schools and colleges face a monumental task in striving for that balance of educational experiences potentially most valuable for individuals and society as a whole.

FITNESS A NATIONAL ISSUE

The average educator of today has formed rather definite though individual opinions about such matters as science and mathematics, proposed "soft spots" in the curriculum, and school discipline. Often he has given limited attention to fitness, except when he finds himself sick in bed, when worry keeps him awake at night, or when his close friends remind him that his social slip is showing. At his school or college he may assume that the physical education department is responsible for the fitness of students, and he

may assume further that physical education means building muscle and stamina by engaging in strenuous exercise.

Present concepts of fitness go beyond this narrow view. First of all, they embrace the unity of man as the total organism reacts to a given life situation. Hence the phrase "total fitness," for reasons of definitive clarity, includes such interrelated attributes as: sound organic health beyond the level of mere freedom from disease or infirmity; physical strength, coordination, agility, and endurance to perform duties normally required without undue fatigue; emotional stability to meet the strains of modern living; social adaptability in accord with prevailing cultural standards; and spiritual and moral traits that improve the quality of human behavior—all bound together into a sort of body, mind, and soul composite pattern. Quite obviously these concepts of total fitness apply equally to individuals and to groups of individuals in families, in communities, in states, and in the nation as a whole.

What chain of events led to this renewed interest in fitness? A generation ago physical education in schools and colleges had for its primary objective the development of strength and endurance through vigorous exercise. But every physical educator knows that muscles grow stronger only when the performer "gives until it hurts"; and the entire system of education (academic as well as physical) gradually made fewer demands on the student's optimum level of potential achievement. The machine age helped to reduce the drudgery connected with most occupations, and life became softer and easier for the average person. Heavy apparatus disappeared from the gymnasia of schools, colleges, YMCA's, and the like, being replaced by recreational facilities that provided greater enjoyment for participants and less hard work. Besides, informed persons had begun to ask, fitness for what? Although everyone needs a certain common denominator of fitness, specialization soon enters the picture. The football player needs fitness quite different from that necessary for the casual fisherman. The sedentary worker's requirements are unlike those of the unskilled laborer. Research has not yet answered the question of how much fitness is basic for all individuals, but medical and other authorities agree generally that most persons would benefit by increased exercise, less worry, and better social graces. Perhaps the bare fact that more than half the hospital beds of this country are occupied by persons with mental disorders gives support to the growing need for total fitness as proclaimed by many leading physicians and educators.

The above discourse presents but a thumbnail sketch of certain events that gave rise to current interest in the problem. These events serve the purpose of example, however, and help to explain the admonitions, voiced by some educators and others, that the youth of this nation is becoming alarmingly soft and unfit as disclosed by tests of strength and agility, by increasing numbers of young people who give evidence of emotional strain, and by growing reports of juvenile delinquency.

Finally, accounts of these disturbing conditions reached the White House. President Eisenhower called the memorable President's Conference on Fitness of American Youth, held at the United States Naval Academy, Annapolis, Maryland, June 18-19, 1956. Vice President Richard M. Nixon was chairman, and 148 persons attended the conference by invitation. The conferees included national leaders in government, education, medicine, recreation, public health, sports,

civic groups, and youth organizations. The assembly reached a consensus that steps should be taken without delay to launch a national program of youth fitness extending from the top levels of government to cities and towns throughout the country. The group recommended that such a movement should involve official, voluntary, and private agencies; and urged the President to appoint a council of cabinet representatives to act as a central clearing house for the program.

President Eisenhower created The President's Council on Youth Fitness by Executive Order on July 16, 1956, and included in its membership: Vice President Richard M. Nixon (chairman); The Secretary of Defense; The Secretary of the Interior; The Secretary of Agriculture; The Secretary of Labor; and The Secretary of Health, Education, and Welfare, with Dr. Shane MacCarthy as Executive Director.[1] The council chose for its slogan, "Youth Fitness is National Fitness."

The Council serves as a policy-making body and, through its executive director and other communications media, has carried the message of fitness to professional and lay groups in all parts of the country. One basic policy deals with encouragement and stimulation for state and local organizations to assume the initiative in promoting fitness through existing agencies. The Federal Government exercises no control over these state and local programs, and provides no financial support for them. The Council acts as the President's official link with The President's Citizens Advisory Committee on Fitness of American Youth, which will be described later.

Within the past eighteen months several professional associations, together with state and community groups, have held fitness conferences attended by hundreds of people. Perhaps a brief report of one conference may help to explain the general scope and significance of all.

From September 12 to 15, 1956, The American Association for Health, Physical Education, and Recreation (a Department of the National Education Association) held such a conference in Washington, D. C. One hundred invited delegates chose for their theme, "Fitness for Youth." This group spelled out the meaning of fitness in broad terms. They said:

> Fitness is that state which characterizes the degree to which the person is able to function. Fitness is an individual matter. It implies the ability of each person to live most effectively within his potentialities. Ability to function depends upon the physical, mental, social, and spiritual components of fitness, all of which are related to each other and are mutually interdependent.[2]

The delegates went further in describing the debt owed by each person to himself and to the welfare of society by explaining that he should possess:

1. Optimum organic health consistent with heredity and the application of present health knowledge;
2. Sufficient coordination, strength, and vitality to meet emergencies as well as the requirements of daily living;
3. Emotional stability to meet the stresses and strains of modern life;
4. Social consciousness and adaptability with respect to the requirements of group living;
5. Sufficient knowledge and insight to make suitable decisions and arrive at feasible solutions to problems;

[1] In recent weeks Vice President Nixon has been replaced as council chairman by The Secretary of the Interior, Mr. Fred Seaton, owing to increasing duties assigned the Vice President. Mr. Seaton was selected because he represents the executive head of the Department of Government which administers the vast resources of National Parks and other facilities so essential to youth fitness.

[2] Quoted from the conference report.

6. Attitudes, values, and skills which stimulate satisfactory participation in a free range of daily activities;

7. Spiritual and moral qualities which contribute the fullest measure of living in a democratic society.[3]

The above seven items and the implications thereof suggest an excellent foundation for use by individual schools, school systems, state education departments, and colleges in preparing curriculum guides for the implementation of this important program.

Many states and school districts have moved forward in promoting fitness through conferences, the issuance of guides, the preparation of fitness tests, and in other ways. Notable examples of states and a city in which work in this direction has been done or is in process are: California, Connecticut, Illinois, New York, and Kansas City (Missouri).

Additional and noteworthy projects include: fitness standards prepared by the Boys' Clubs of America; the bulletin on fitness and recreation published by The American Recreation Society; and an extensive research study on physical fitness standards being pursued by the American Association for Health, Physical Education, and Recreation. Space does not permit elaboration on this subject.

On September 9 and 10, 1957, The President's Citizens Advisory Committee on Fitness of American Youth held its First Annual Meeting at the United States Military Academy, West Point, New York. As noted earlier, this committee serves as the President's official link with The President's Council on Youth Fitness, composed of cabinet representatives. Several council members attended the West Point meeting. The President's message on this occasion read:

The demands of this age put great emphasis on the preparation of the youth of America, in body, mind and spirit. I can think of no more important subject to merit the attention of our Government and all citizens of the land.

As this subject is discussed by leaders assembled at West Point, I am sure that effective progress will be advanced for the strength of the national community.[4]

Vice President Richard M. Nixon served as titular head of the conference, with Mr. Carter Burgess, President of TWA, acting as chairman. The Committee consists of 121 members, invited by the President, and plans to meet annually to discuss ways and means of promoting fitness among all American youth. Members of the Committee represent many fields: athletic, civic, commerce, education, foundations, industry, labor, law enforcement, medicine, press, radio, television, public health, public relations, recreation and parks, religion, veteran, and youth.

Through group discussions and interchange of ideas, the committee directed its attention to such subjects as: leadership for youth fitness; facilities and programs; community resources; research; and telling the youth fitness story. The conference report contains a wealth of information and suggestions for use by schools and other organizations in the initiation or development of youth fitness programs.

EDUCATION A VITAL FACTOR IN FITNESS

The role of education in this great movement seems eminently clear. No other organization has such rich and varied resources as education. Among its more important resources are: expert leadership in all aspects of fitness; an abundance of facilities and equipment;

[3] *Ibid.*

[4] Quoted from official program.

an organized and broad program of activity experiences; demonstrated ability to cooperate with out-of-school groups such as medical and dental advisers, public health authorities, recreation commissions, and park departments; experience in marshaling community forces to promote the general welfare; and most significant of all a "captive audience."

One can anticipate all sorts of questions being raised and reasons given to justify the school's position in avoiding this important issue. Some persons will ask, How can we add another program to a curriculum already bursting at the seams? Of course this is not another program; it involves primarily, a realignment of emphasis in current programs at points best suited to fulfill objectives proposed by competent educators for a half-century. Others will raise the corollary question, How can we find time to include fitness in the curriculum? The answer appears obvious that the most valuable asset in schools concerns the students themselves, their present and future health and welfare, the attitudes and skills they develop toward optimum living as adjusted individuals and respected citizens. Still others will say, Why not leave this task to the physical education department, which already has fitness as one of its goals? To be sure, physical education must accept a substantial measure of responsibility in developing strength and vigor, and in utilizing the medium of large-muscle activity to alleviate emotional strain and to cultivate habits of approved social conduct. But physical education cannot do the job alone; total fitness in schools is everybody's business. Another group may comment, Since the schools often are criticized for usurping authority allegedly belonging to the home or to another community organization, why not avoid this criticism by leaving fitness to these groups? Perhaps one answer is that while all sorts of agencies must cooperate in this worthy venture, education represents the best focal point from which to guide the program and to enlist the help of other organizations.

ORGANIZATION FOR FITNESS IN SCHOOLS AND COLLEGES

Solution to the problem of fitness in schools and colleges rests heavily upon persons in charge of curriculum development. The task is neither easy nor particularly complicated. Every teacher, every guidance counselor, and every administrator has a role to play. Most curriculum personnel with imagination and with the best interests of students in mind will reap abundant satisfaction from viewing lives enriched by a sound program of total fitness.

Just how can a school or college proceed with the establishment of a fitness program? Basically, the plan involves a broadly conceived group of planned activities, the cooperative efforts of all school personnel, and the effective utilization of community resources. Thus curriculum directors would seem to represent the educational hub around which the program wheel revolves, with active support given by departments or teachers, guidance and other services, and administration.

Keeping in mind that the issue deals with total fitness, school officials need to plan suitable experiences for youth within the entire curriculum. Goals must be set, activities planned, methodology considered, administrative procedures established, and evaluation standards applied throughout the entire enterprise.

Much depends upon the type of school or college organization. Elementary schools employ a variety of organiza-

tional patterns: by subjects, by broad fields, by areas-of-living,[5] and by the emerging curriculum. Most secondary schools continue to organize the curriculum by departments and subjects, although the core program or broad-areas approach gradually gains favor. Colleges maintain departments and subjects, with an increasing number of these institutions offering general education for the whole student body as a foundation for specialization.

Notwithstanding the kind of organization used, total fitness runs the gamut of educational experiences and challenges the attention of many experts. Perhaps a few random examples may help to clarify this statement. Most persons would agree that physical educators must assume a major role in building neuromuscular strength, coordination, agility, and endurance. Health educators, science teachers, home economists, and others have responsibilities for assisting youth with matters of healthful living. Guidance counselors deal with emotional and social problems among so-called "normal" youth as well as help the disturbed and maladjusted. Physics teachers often can allay unnecessary emotional fears through explanations of phenomena associated with guided missiles and satellites. Administrators contribute their share by articulating school and community resources both physical and personal—swimming pools, bowling alleys, parks, playgrounds, libraries; recreation personnel in commissions and among religious groups, policemen and firemen, social workers, medical and dental authorities, and civil-defense officials. Indeed, few if any staff members will find themselves without essential duties to perform in a program of total fitness that exemplifies sound organization and intelligent direction.

In conclusion, and in tying this discussion together, one might make a few safe observations and predictions. Youth constitutes the most valuable resource of the nation. The central focus of attention in education is the individual student, and the opportunity to instill in him ideals of and enthusiasm for attainment judged worthy by society. Education cannot meet a great challenge with penurious and haphazard programs. Fitness may spell the difference between success and mediocrity or failure among the youth of today and the citizens of tomorrow, including the mathematicians and scientists. Good fitness programs can help to eliminate the alleged "soft spots" that have crept into the curriculum. And the youth with fitness of body and mind seldom winds up in the principal's or dean's office or in juvenile court as a case for disciplinary action.

[5] Hollis L. Caswell and Arthur W. Foshay, *Education in the Elementary School*, Third Edition (American Book Company, New York, 1957), p. 262. In discussing the areas-of-living curriculum these authors write, "Areas frequently employed are maintaining health, making a home, performing civic responsibilities, recreation, making a living, and getting an education."

Education and the Foundations of Liberty*

GEORGE S. COUNTS

PROFESSOR EMERITUS OF EDUCATION, TEACHERS COLLEGE

In 1913 James B. Bury published a book entitled *A History of Freedom of Thought*. In his last chapter, after having told the story of the long struggle of Western man for the liberation of the human mind, this eminent English historian and philosopher expressed the optimism of the time in the following words: "The struggle of reason against authority has ended in what appears now to be a decisive and permanent victory for liberty. In the most civilized and progressive countries, freedom of discussion is recognized as a fundamental principle." This statement by a wise and learned man dramatizes the gulf that separates the present generation from the opening years of the twentieth century. Who today would venture to say that the struggle for "freedom of discussion" has ended in triumph? Indeed, many voices have been heard during the last four decades proclaiming the end of the era of liberalism and the rise of some form of Caesarism.

Bury, however, after registering the optimism of the age, being a good historian, revealed a remarkable prescience. "Yet history may suggest," he wrote, "that this prospect is not assured." And then he asked, "Can we be certain that there may not come a great set-back?" Reviewing the past and recalling the recurrent ages of darkness, he continued, "Is it not conceivable that something of the same kind may occur again? That some new force, emerging from the unknown, may surprise the world and cause a similar set-back?" With this he engaged in the following speculation: "It is by no means inconceivable that in lands where opinion is now free coercion might be introduced. If a revolutionary social movement prevailed, led by men inspired by faith in formulas (like the men of the French Revolution) and resolved to impose their creed, experience shows that coercion would almost inevitably be resorted to."

The year after the publication of Bury's book the catastrophe of the First World War swept over the "most civilized and progressive countries" of the earth and weakened the moral supports of liberty. And out of the catastrophe emerged the twin despotisms of Bolshevism and Fascism with their totalitarian doctrines and barbarous deeds. It is difficult for us to realize that the generation attending our colleges in the first decade and a half of this century never heard the words "Bolshevism" and "Fascism" mentioned in their classes in history and social philosophy. In fact the words "totalitarian" and "totalitarianism" first appeared in Webster's unabridged dic-

* This is the third in the series of lectures on "Education for a Society of Free Men in the Technological Era" delivered by Dr. Counts in Brazil in 1957.

tionary in 1934. The totalitarian scourge brought the Second World War, and today in its Bolshevik or Communist variant it holds in bondage one-third of the human race, penetrates every society on the planet, and seeks to destroy by any and all means the spirit of freedom everywhere. And in the United States, the "land of the free," as we are fond of calling it, we must be perpetually on the alert lest we fall victim to some native form of totalitarianism fraudulently carrying the banners of patriotism and presenting itself as the only loyal defender of "the American way of life." The seeds of this bogus brand of love of country have already sprouted here and there in our soil, as well as in the soil of other free lands. The prophetic speculation of Bury has been filled to the letter. Men "inspired by faith in formulas" have appeared on all continents.

We in America constitute the most powerful bastion of freedom in the world. If we should falter or grow weary in its practice and defense, the cause of liberty might well be lost throughout the earth—and the earth is getting smaller and smaller by the minute. This must be a sobering thought to free men everywhere. But how well are we equipped to discharge the awesome responsibilities which history has placed firmly on our shoulders and from which we simply cannot escape by the adoption of the so-called "Bricker amendment," by withdrawal from the United Nations, by transporting ourselves to another planet, or by any other magic formula? We must realize clearly that the destinies of all free nations are inextricably linked together.

It is in this realm of the fate of human freedom that one of the foremost tasks of the schools, colleges, universities, and all agencies of enlightenment is found. As a people we must achieve an understanding of the foundations of liberty surpassing in both depth and scope that of any earlier generation, not excluding the generation of the founding fathers of the Republic. The rise of demagoguery in these latter years and the attendant indifference to the preservation of the basic rights of the individual constitute a measure of the deficiency of our understanding. Many of us apparently are unable to grasp the dimensions of the dilemma confronting us in our search for national security in a free society. The plain fact is that a large fraction of our people either do not understand the nature of liberty or do not care what happens to it. If we fail to see that the end desired is really security for liberty now and in the future, the thing we profess to covet most—our heritage of freedom—may itself be lost. We must realize that tyranny, like liberty, "broadens down from precedent to precedent."

A recent study of the American public mind in the realm of civil liberties by trained social scientists reveals the magnitude of the educational task before us. It also reveals a widespread condition of ignorance, confusion, and unconcern with respect to the very essence of a free society. When asked what they "worry about most," 80 per cent of the men and women interviewed answered solely in terms of immediate personal and family problems. Ten per cent "professed no worries about any problems." And less than 1 per cent, "by the most generous interpretation," expressed any concern over the threat of Communism or the condition of civil liberties. Thirty-one per cent thought that a socialist should not be allowed to present his ideas in a public address, 35 per cent that a book written by him on socialism should be removed from the public library, and 84

per cent that he should not be allowed to teach in college or university. Twenty-one per cent expressed the opinion that "a man whose loyalty has been questioned before a Congressional committee, but who swears under oath he has never been a Communist," should not be allowed to speak in the community. Twenty-two per cent would "fire" such a person from a high school teaching post, 18 per cent from work in a defense plant, and 11 per cent from clerking in a store. Moreover, many of our citizens seem unable to distinguish Communism from democratic socialism, or even from the principles of liberalism and the ethical teachings of the Judeo-Christian faith. This situation is made to order for the demagogue, the internal foe of free society since ancient times. I wonder if the situation in Brazil is any different.

In this "time of troubles" and this "time of promise" we should inquire deeply into the supports of liberty. Such supports are both tangible and intangible, the two being closely interwoven. The former are well-known and have received much attention in our generation, while the latter have been all too much neglected. Consequently, I shall give most of my attention in this lecture to the intangible supports of liberty. Also, it is in this realm that education must play its major role. And the emphasis will be placed on political liberty, for as Malinowsky warns us in his *Freedom and Civilization*, "although political freedom is not the only type of freedom in culture, yet its absence destroys all other liberties."

II

Foremost among the tangible supports is the factor of power in its several overt forms. Since the ancient Greeks, the truth has been recognized that freedom is safe only where military, economic, and political power is widely distributed and subject to the discipline of law. Thucydides, though speaking of justice rather than of liberty, observed, "We both alike know that into the discussion of human affairs the question of justice only enters where the pressure of necessity is equal, and that the powerful exact what they can and the weak grant what they must." And Aristotle a century later stated as a maxim of politics that "when the rich grow numerous or properties increase, the form of government changes into an oligarchy or a government of families." In setting up the system of checks and balances the founding fathers of our Republic were keenly aware of the relation of power to liberty. And Daniel Webster merely gave expression to the tradition of Anglo-Saxon liberalism when he said in 1820, "In the absence of military force, political power naturally and necessarily goes into the hands which hold the property."

Perhaps the most widely quoted statement concerning the role of power in human affairs came from the pen of Lord Acton, renowned English student of the relation between freedom and power. Before the rise of the contemporary totalitarian state he said simply, "Power tends to corrupt and absolute power corrupts absolutely." Like all sweeping statements regarding the behavior of men, this statement of course requires some qualification. The countless ruling classes, nations, and races of history have not been equally corrupted by the possession of vast temporal power. One need only mention the contrasting policies and actions in our time of British imperialism, on the one side, and Nazi or Communist imperialism, on the other. Even slavery is marked by varying degrees of brutality and cruelty in different ages and cultures.

And when we turn to the impact of power on individuals, we are compelled to qualify the maxim still further. As a matter of fact, it would not be difficult to cite cases in our own American history of men who were humbled rather than corrupted by the exercise of the great power of the Presidency. On the other hand, one can easily imagine how Hitler or Stalin would have responded to the hunger strikes of Mahatma Gandhi. The latter's resort to non-violent opposition was successful only because of the humane impulses of the British Viceroy. Yet the citizens of a free society, if they would remain free, must ever keep their eyes fixed anxiously on the brute facts of power. They must ever be watchful lest some class, caste, sect, party or faction achieve a monopoly of military, economic, or political power. And at no time in the past was there greater need for such watchfulness than there is in the present age of industrial civilization, when the power balances are marked by rapid, continuous, and even profound change. Particularly fateful for the future of liberty are the new instruments of power created by scientific and engineering genius, notably the new weapons of warfare and the new means of communication by which the bodies of men may be destroyed, their minds molded, and their spirits coerced. Such employment of these fruits of technology distinguishes the contemporary totalitarian states from the despotisms of the past. George Orwell develops this theme to its logical conclusion in his *Nineteen Eighty-Four*.

III

Another tangible support of liberty may be found in the facts of geography. For several centuries the great oceans east and west served countries of the New World as powerful barriers against successful aggression from Europe and Asia. In a sense George Washington was merely recognizing this condition when, in his Farewell Address in 1796, he warned against forming "permanent alliances with any portion of the foreign world" and entangling "our peace and prosperity in the toils of European ambition, rivalship, interest, humor, or caprice." A little more than a generation later Alexis de Tocqueville, early in his American visit in 1831, directed his eyes toward the geographical factor. Coming with a strong aristocratic bias against theories of democracy and popular rule, he gradually tempered his views in the light of his observations. He had been in America only a few months when he set down in his notes ten "causes" for the relative success of our democracy. The second of these "causes" was "geographical position—no neighbors." Today the oceans, as Tocqueville saw them, are gone. And the security which they provided and which is so essential to liberty is gone too. Some students of English history have likewise traced the development of the Anglo-Saxon tradition of political freedom to the natural barrier of the Channel.

There are other tangible supports of liberty which deserve mention. High among them would be economic plenty and security, which David Potter, an American historian, has analyzed in a recent book. Also there is the phenomenon of the voluntary association which has long been characteristic of American life, which so astonished Tocqueville, and which insures a wide distribution of power under the rule of law. And there are others. But the emphasis in the present lecture is placed on the intangible supports of liberty—supports which are basic to its practice and survival, which

at the same time are little understood or appreciated, and which confront education with its major problems and tasks in this realm. Not a few persons appear to believe that freedom can be transported from one society to another by the shipment of its outward forms.

IV

The tangible and intangible supports of liberty are brought together in the rule of law, which, according to Sir Ernest Barker, is "the foundation of foundations" of the Western political tradition. Without it the history of Europe would have little political significance. And this tradition assumes its most fundamental expression in the constitution, the "law of laws," the law under which laws are made and judged, the law which governs the governors, whether peoples, classes, officials, or monarchs. The development of constitutionalism may be regarded as man's boldest and most imaginative attempt to bring order and stability into the conduct and administration of human affairs, and not just for a brief season, but for generations and centuries. Charles A. Beard, a renowned student of our federal constitution, once expressed the view that "constitutionalism represents the highest type of government."

Statute laws and written constitutions may be regarded as tangible supports of liberty, but laws and constitutions do not enforce themselves. Why do men obey the laws, why do powerful economic groups submit to the removal of their privileges by legal means, why do the heads of government accept the verdict of the polls, and why do great army commanders fresh from victory on the battlefield abide by the principle of the subordination of the military to the civil authority in accordance with the constitution? It is in this realm that the intangible supports of liberty play their indispensable role. It is in this realm too that the economic and military determinists have made their most grievous errors. The more fanatical followers of Karl Marx, for example, have assumed that all so-called "capitalist" societies are precisely alike in their fundamentals and are destined to follow the same course into the future. They forget that Marx himself repudiated this doctrine in 1872.

The issue may be sharpened by a reference to the history of constitutionalism which dates from the last quarter of the eighteenth century. During the century and a half following 1776 and 1789, says Walton H. Hamilton, professor of law at Yale University, "a count of instruments in which peoples have embodied their faith runs into the hundreds." Among these "instruments" was the famous Weimar Constitution of the German Second Reich, regarded by many students as one of the best constitutions ever written. Yet it endured but fourteen years. And of the hundreds to which Hamilton refers only a handful have actually survived the test of time and circumstance. Many lasted only a few years or decades. It is the unwritten codes of responsibility, loyalty, self-reliance, and moral courage living in the hearts of individual men and women which seem to make the difference.

V

The subject therefore takes us behind and beneath the laws, to the very character and genius of a people, to traditions, habits, loyalties, ideals, and values—all intangibles which are as real as guns, lands, factories, and parliaments. A generation ago Lord Balfour, English statesman and philosopher, summarized most succinctly these intangible supports of the British

Constitution, a constitution that was never written or adopted at any particular time. "Could it long survive the shocks of revolutionary and counter-revolutionary violence?" he asked himself, and then proceeded to answer, "I know not. The experiment has never been tried." But in the following words he prescribed the conditions of survival:

> It matters little what other gifts a people may possess if they are wanting in those which, from this point of view, are of most importance. If, for example, they have no capacity for grading their loyalties as well as for being moved by them; if they have no natural inclination to liberty and no natural respect for law; if they lack good humour and tolerate foul play; if they know not how to compromise or when; if they have not that distrust of extreme conclusions which is sometimes mis-described as want of logic; if corruption does not repel them; and if their divisions tend to be either too numerous or too profound, the successful working of British institutions may be difficult or impossible.

This remarkable statement deserves far more elaboration than is possible here, particularly since the British people answered Balfour's query in the affirmative when they accepted the victory of the Labor Party in August, 1945. But high among the priorities is a body of common loyalties and conceptions of the general welfare which may be capable of holding the "divisions" in peaceful and orderly bounds. This note was stressed more than two centuries ago by Montesquieu. Recognizing three forms of government among men—despotic, aristocratic, and republican—he argued that the distinguishing mark of the first is fear, of the second, honor, and of the third, virtue. By "virtue" he meant "love of the laws of our country," a love which "requires a constant preference of public to private interest." And since virtue involves "self-renunciation," which is "ever arduous and painful," it "is in a republican government that the whole power of education is required." Political liberty therefore, if it is to endure through the generations, cannot mean every man for himself and for the advancement of his narrow personal interests. Nor can it mean every class, group, association, or party for itself. The maintenance of a regime of individual liberty is thus a wide social undertaking. It cannot be a regime under which the citizen is relieved of responsibility and freed from all restraints not imposed by law or necessity. And "preference of public to private welfare" requires, not the maintenance of things as they are, but a deep concern for the eradication of injustice, the achievement of equal opportunity for all, and the removal of everything that is mean and ugly in the common life. As Carl Becker, an American student of the founding of the Republic, has eloquently said, every right or freedom carries with itself a corresponding responsibility.

It is well to recall the wise words of Lord Moulton, an English student of jurisprudence, about "obedience to the unenforceable" uttered more than a generation ago. Between "the domain of Positive Law" and "the domain of Free Choice," he said, there lies "the domain of Obedience to the Unenforceable" in which conscience rules. In his view "obedience to the unenforceable" constitutes the moral foundation of a good society. And this applies not only in the field of politics and citizenship, but also in every sphere of life—in the family, in the church, in industry, in the voluntary association, and in all human and social relationships. The power of law is clearly limited. It can scarcely be expected to make good citizens in a free society or

enforce itself, but good citizens are absolutely essential to both the making and the administration of good laws. Love of political liberty, and even love of country, cannot be compelled by legislation. And the same may be said of a sense of fairness, a spirit of tolerance of differences, an abhorrence of injustice, an acceptance of majority rule, a devotion to the Bill of Rights, an experimental and inquiring mind, and a love of one's neighbor. These great values of a free society can only be incorporated into the character of the individual through the processes of nurture and education. And this end can be achieved, not by encouraging children to pursue their own immediate interests, but by organizing an educational program deliberately and carefully designed for the purpose.

VI

Yet another intangible support of liberty is knowledge and understanding on the part of the citizen of the nature of man and of the world and age in which he lives. The dependence of free institutions on popular enlightenment has been recognized by all the great leaders and spokesmen of democracy since ancient times. But few have seen this relationship more clearly than a humble and untutored New England farmer at the close of the eighteenth century. This man, William Manning by name, completed a manuscript in 1798 entitled *The Key of Liberty* in which he endeavored to show "the Causes why a free government has Always Failed, and a Remidy against it." In his opening paragraph the author confesses candidly his limitations for undertaking such a formidable task: "I am not a Man of Larning my selfe for I neaver had the advantage of six months schooling in my life. I am no travelor for I neaver was 50 Miles from whare I was born in no direction, & I am no grate reader of antiant history for I always followed hard labor for a living." Although his grammar was bad and his spelling worse, William Manning knew his way about in the complex field of social forces. After giving "A General Description of the Causes that Ruen Republiks," he concludes that "Learning & Knowledg is essential to the preservation of Libberty and unless we have more of it amongue us we Cannot Seporte our Libbertyes Long." He then proceeds to outline the elements of "Knowledge nesecary for a freeman."

Although knowledge and understanding are not the only intangible supports of liberty, they are crucial. It seems quite likely today that those citizens of countries that had enjoyed a measure of freedom and then passed under the yoke of dictatorship did not know what they were doing. Moreover, if knowledge and understanding were necessary in Manning's time, how much more necessary they are today! Here without doubt may be found one of the most fundamental threats to the survival of liberty today and tomorrow. Science and technology, as I have said before, have created a society so dynamic in its movements, so mighty in its energies, so wide in its sweep, and so complex in its operations that one is entitled to wonder whether its control may not be beyond the capacity of the ordinary citizen. It is just possible that here is the "Achilles' heel" of free society in the present age and in the fabulous age which lies ahead. Let us recall in this connection the striking conclusion of R. J. Forbes that, even after the opening of the age of electronics and atomic energy, "we have picked up but a few pebbles on the shores of a great ocean that still remains to be explored." Clearly, if the individual is to acquire the

"knowledge necessary for a freeman" in the coming epoch, he must acquire a thirst for such knowledge. This thirst is another of the intangible supports of liberty. Unfortunately it is not a natural and universal possession of man. On the contrary it must be acquired through the twin processes of tuition and learning.

As liberty has its intangible supports, so it has its intangible destroyers. And an awareness of these intangible destroyers constitutes in itself one of the essential intangible supports of human freedom. This leads to an examination of the "totalitarian mind," whose elements are always present in some measure in the citizens of a free society. The true totalitarian regards as right whatever advances, or whatever he thinks advances, his cause. He thus subordinates means to ends, repudiates the idea of objective truth, and is prepared to falsify history and events in the interest of victory. He scorns the idea of human dignity and treats without mercy all who oppose him, whether individuals, classes, or races. He refuses to tolerate differences, and regards those who are not with him as enemies to be destroyed. He glorifies the role of violence in history, employs the language of violence and hatred, and obeys the law only when he is weak. He is certain of the rightness of his acts and the grandeur of his mission. He subordinates everything to the capture of power. And on capturing power he outlaws all the freedoms of a democratic society, even outlawing the freedom of silence. He seeks to control all agencies and processes for the molding of the mind and rejects completely the conception of the higher law, the law above the state, the right of conscience. He is God. But he performs all of his acts in the name of the welfare of some class, race, or people whom he never consults. The follower surrenders his individual liberties and gives himself completely to the will of the leader. And all the while he believes himself to be engaged in a great crusade for some great good. A free society must be on guard against the spread of this mentality, an understanding of which should be a major object of education.

The Idea and Practice of Teacher Certification in the United States

ERWIN W. VON SCHLICHTEN

LATE ASSISTANT PROFESSOR OF PSYCHOLOGY, UNION COLLEGE

PREFATORY NOTE

CURRENT interest in teacher certification is high. Critics of the public schools and of teacher education tend to attack existing certification arrangements on suspicion that they have been cooked up by professional educators in a self-serving spirit. Educators are also dissatisfied, though naturally on different grounds. The arguments that take place are not always based on sound information and thorough analysis.

Dr. von Schlichten's two articles—of which this is the first—should, therefore, prove useful. His account of how existing certification practices have evolved provides a valuable perspective. His probing of the issues involved calls attention to considerations that must, clearly, be weighed.

The articles are based on the author's doctoral project at Teachers College, "A Study in Teacher Certification: The Story of the Five-Year Requirement in New York State." Dr. von Schlichten, who was Assistant Professor of Psychology at Union College when he received his Ed.D. in 1956, had intended to prepare them himself. When his sudden and premature death made that impossible, I was glad—for many reasons—to undertake the task. What follows, however, is almost entirely as Dr. von Schlichten wrote it. The reader should, therefore, remember that statements as to the situation "now" or "at present" strictly refer to what the author was able to discuss two or three years ago. No substantial changes in the picture are, however, believed to have occurred since then.

KARL W. BIGELOW
Professor of Higher Education
Teachers College

WHENEVER communities establish schools—specialized arrangements for the education of the young—there emerges a specialized class of persons to perform the function of teaching. Inevitably, too, there develops among those who establish, foster, and support the schools a concern for the qualifications of their teachers. Throughout the history of education that concern has been translated into legislation and regulations, prescriptions and restrictions, resulting in the formal procedures once known as allowing or licensing and now generally spoken of in the United States as certification. Of course neither the ideas concerning certification nor the practices currently engaged in under that rubric have emerged full-blown in our time. The present discussion will therefore consider the general subject of certification.

THE IDEA OF CERTIFICATION

Teacher certification as now practiced in the United States has been defined as "the act of designating persons whom public boards of education may legally employ as teachers in public schools and of issuing teaching certificates to these qualified persons."[1] It would seem ob-

[1] Carter V. Good (ed.), *Dictionary of Education* (New York, McGraw-Hill Book Company, Inc., 1945), p. 63.

vious that certification requirements should: (1) be relevant to the purposes of education; (2) recognize the actual requirements of the positions for which they approve people; (3) recognize the competencies which it is felt necessary or desirable that the teacher have; and (4) take into account the actual preparation which it is possible to give candidates.

Certification requirements should be relevant to the purposes of education. This would seem to be a self-evident proposition. It follows, then, that the more clearly fixed the purposes of education, the greater the likelihood that the qualifications of teachers can be clearly established. When we survey the contemporary American educational scene, however, we are forced to conclude that our purposes are far from clear.

At present, public education is the subject of criticism from many quarters. After analyzing much of this contemporary criticism, Woodring concludes that, in order to improve the schools, first, we must find more good potential teachers and, second, "we must decide just what we want the schools to accomplish."

> Finding better teachers and preparing them more adequately is in part the responsibility of the teachers colleges, but the type of preparation will be dependent upon our decisions about what is to be expected of the schools. These decisions have not been made.[2]

If this is true, then the establishment of certification standards must necessarily be more difficult.

Certification requirements should recognize the actual requirements of the positions for which they approve people. This is not to say that requirements can be established only on the basis of job analysis techniques, for such an approach alone would tend toward sterility. It does imply that data from job analyses ought to be taken into consideration. The teacher is, says Kinney, (1) a director of learning, (2) a counselor and guidance worker, (3) a mediator of culture, (4) an effective liaison between school and community, (5) a member of the profession.[3]

Whatever the broad categories or the specifics of the duties of a teacher may be, the point is simply that certification procedures which presume to select teachers ought to take into consideration the total requirements of the positions they aim to fill.

Certification requirements should recognize the competencies which it is felt necessary or desirable that the teacher have. There is a general assumption that the successful teacher possesses some skills, knowledge, abilities, traits, and qualities which ought to be identifiable and measurable. On that assumption a large number of studies have been carried on over many years—studies of causes of teacher failure, analyses of pupil opinions relative to desirable teacher traits, summaries of expert opinions of practical schoolmen, investigations of characteristic differences between good and poor teachers—all designed to elicit information on desirable teacher competencies.[4] Unfortunately, despite such serious effort it has not yet been possible to establish criteria on which to judge teacher effectiveness. In the light of this lack of reliable, usable knowledge regard-

[2] Paul Woodring, *Let's Talk Sense About Our Schools* (New York, McGraw-Hill Book Company, Inc., 1953), p. 199.

[3] Lucien B. Kinney, *Measure of the Good Teacher* (Sacramento, California Teachers Association, 1952), 28 pp.

[4] See, for example, A. S. Barr, "Teacher Competencies," *Encyclopedia of Educational Research* (New York, The Macmillan Company, 1950), pp. 1446-54.

ing teacher competencies, one can only conclude that much of our present teacher certification (and selection, training, and evaluation as well) must be a groping in relative darkness.

Certification requirements should take into account the actual preparation which it is possible to give candidates. A simple illustration will clarify the point. A half century ago any demand that a teacher have a thorough knowledge of the child or the adolescent would have been absurd practically, no matter how desirable theoretically. Now, considering developments in those fields, it would be equally absurd to fail to require such understanding as a condition of employment. The principle of gearing certification requirements to what is possible by way of training may be illustrated in a number of subject-matter as well as professional areas—in measurement, use of community resources, guidance and internship, to cite a few examples. At present this principle probably has the most relevance for the professional requirements to be demanded of secondary teachers, for it is in respect to their preparation that one is most likely to encounter disparaging attitudes toward professional preparation.

The Question of Bases

A perennial question regarding certification is, What shall be the bases of certification? It will be shown in the latter part of this discussion that we have moved historically from licensure based on subjective judgments of the candidate's qualifications, through local, county, and state written examinations, to state certification based largely on courses and degrees, via transcript. And still the problem of adequate bases persists.

The discussion of factors that ought to be taken into account in formulating requirements offers fruitful clues to new bases, if it can indeed be demonstrated that the present bases are inadequate. Armstrong leans in this direction when he says:

> Until the job of assigning functions and identifying competences is done, we shall operate on the assumption that a certain number of credit hours in a subject is evidence of competence in that area, and that the graduate of an accredited institution should be licensed to teach. It is my belief that the teaching profession will require at some time in the future some further evidence of competence in addition to graduation from an institution with an approved program of teacher education.[8]

Two Conclusions

From the foregoing discussion of purposes, relevant factors and bases, many conclusions regarding certification might be drawn. Two will be discussed briefly. First, it seems evident that certification requirements, once established, can never be considered permanent. As new goals for education are established or old ones dropped, as techniques for identifying and measuring teachers' competencies are developed, as new insights into teacher education are gained, as teaching itself moves increasingly onto the professional level, these developments must inevitably reflect themselves in changes in certification standards.

Second, it must also be evident that certification is not an isolated phenomenon. It is patent, for instance, that certification, teacher education, and ultimately accreditation for teacher educa-

[8] W. Earl Armstrong, "Teacher Certification and the Professionalization of Teaching," *The Certification of Teachers*, Official Report of the Miami Beach Conference of the National Commission on Teacher Education and Professional Standards (Washington, National Education Association, 1953), pp. 52-53.

tion are part of the same cloth. It would be a nice exercise to attempt to determine what the precise relationship between certification and teacher education really is. "The requirements for a credential are in fact," says Simpson, "a legal statement of the minimum requirements of the curriculum for the education of teachers."[6] On the other hand, developments in teacher education lead to developments in certification requirements also. Quite possibly the relationship is reciprocal.

Accreditation, teacher education, and certification are simply parts of what should be a unified process. Beyond that, certification is also related to supervision and in-service training. If, for example, schools are able to give a new teacher a large amount of professional supervision in his initial position, the entrance requirements for that position can be quite different from what they are if the beginner is to be thrown entirely on his own at the very outset.

Certification Standards and Teacher Supply

There are divergent points of view concerning the relationship of certification standards to teacher supply. The problem of an adequate supply of teachers is, and for decades has been, a thorny one, marked by alternating cycles of feast and famine. The problem is complicated by the fact that we are dealing with a question of effective rather than potential supply, it being well known that many more people prepare for teaching than ever enter the field, many remain in the field for only short periods, and still others could move into various teaching fields with relative ease if they were so minded. Our question narrows itself, then, to this: What relationship, if any, is there between effective teacher supply and certification standards?

Here it need only be reported that four distinguishable and conflicting positions have been taken respecting this question: (1) that high standards increase shortages;[7] (2) that they reduce them;[8] (3) that they have no effect one way or the other;[9] and (4) that on available evidence no one can be sure what the truth is.[10]

Formulation of Certification Standards

The final question to be considered is this: Who shall be responsible for formulating certification standards? In the United States, standards are drawn up by each of the forty-eight states. There appears to be no significant quarrel with that arrangement. Granted its validity, a further question arises: Who specifically, within the several states, shall participate in the determination of the requirements which are to be adopted and enforced? Stinnett holds this to be a fundamental issue, particularly because he feels that many people believe that the certification process is dominated by "educationists," by a "group of monopolists" who manipulate standards in the interests not of the children and the public, but of the "hier-

[6] Roy E. Simpson, "The State Superintendent Looks at Teacher Education," *California Schools*, April, 1954, p. 165.

[7] See J. Bracken Lee, "Certification Standards Should Be Lowered," *Utah Educational Review*, September, 1954, pp. 20, 28.

[8] See American Association of School Administrators, *The Expanding Role of Education*, Twenty-sixth Yearbook (Washington: American Association of School Administrators, 1948), p. 232.

[9] See Armen A. Alchian, "An Economist Looks at Secondary Education," *California Journal of Secondary Education*, January, 1954, pp. 35-38.

[10] See Francis S. Chase, "The Improvement of Teacher Certification—Next Steps," *The Certification of Teachers*, *op. cit.*, p. 81.

archy in education."[11] Whether or not these charges are true, it seems imperative, especially in the light of our commitment to democracy, that the principle be adopted that those who are affected by and have a concern for the regulations which are established should have a definite voice in their formulation.

It is heartening to note that there is a growing movement in the direction of implementing the principle which has just been enunciated. There are at present forty-seven commissions on teacher education and professional standards (TEPS) set up in forty-three states, with two in South Carolina, two in the District of Columbia, and one in Hawaii, which "represent the interests of the teaching profession itself, and generally they have been given an important role in the democratic process of determining certification requirements."[12] In addition, in thirty-six states there are state councils on teacher education, composed principally of representatives of all teacher education agencies in the state. While their central concern is teacher education, this is so intimately related to certification that they cannot avoid dealing with questions in the latter field.[13] Many states also have advisory committees which work directly with state directors of teacher education and certification. For example, since 1949 California has had such a state-wide committee, appointed by the Superintendent of Public Instruction, which appears to be particularly effective.[14]

Jaggers suggests that in the several states the following groups should be involved in the formulation of teacher-education and certification programs: the organized profession through its commissions on teacher education and professional standards, the state department of education, teacher-education institutions, the advisory council, and the employers of teachers.[15] While all of this is in the direction of democratizing the formulation of certification regulations, it should be noted, first, that all of the groups suggested by Jaggers appear to have only advisory functions in relation to the state director of certification, and, second, that the whole complex is still within the circle of professional educators. Fuller implementation of the democratic principle indicates (1) that the suggested advisory groups should be granted more actual legislative power, and (2) that the public at large should be given a more direct voice, possibly through such an agency as the Parent-Teacher Association.

Desirable Certification Standards

The foregoing discussion makes possible some extension of the list of characteristics of desirable certification standards presented earlier. Not only should they: (1) be relevant to the purposes of education; (2) recognize actual requirements of positions; (3) indicate essential or desirable competencies; and (4) take into account preparation possible to give candidates; they should also: (5) be specific in that they make clear to the prospective teacher just what, beyond the length of the period of study, must be done to prepare for a given position, and also give guidance to the teacher-prepar-

[11] T. M. Stinnett, "Teacher Certification: Current Practices and Issues," *The Certification of Teachers, op. cit.*, p. 9.

[12] *Ibid.*, p. 10.

[13] Sam P. Wiggins, "A Study of State Councils," *Journal of Teacher Education*, September, 1954, pp. 183-87.

[14] Simpson, *op. cit.*, p. 165.

[15] R. E. Jaggers, "Teacher Certification and the Professionalization of Teaching," *The Certification of Teachers, op. cit.*, pp. 61-62.

ing agencies to insure that prospective teachers are in fact prepared for given types of positions; (6) be flexible to permit adjustment to changing conditions in the schools, experimentation in teacher education, free movement of teachers across state lines, and the like; (7) be democratically evolved so that the interests of all are reflected; and (8) be effective in that they help meet the actual needs of the schools.

In fine, desirable certification standards ought, above all, to promote rather than inhibit the securing and retention of the right kinds of teachers. There is a point beyond which certification could become so stringent, complex, bothersome, inflexible, and restrictive that it would be seriously inhibitory. Even more painful to contemplate is the possibility that an unrealistic certification process might actually facilitate the selection of precisely the wrong kinds of persons as teachers.

THE PRACTICE OF CERTIFICATION

Colonial and National Backgrounds

The original American colonies were predominantly English and Protestant in their orientation and so their institutions bore these imprints. Of all the English ideas bearing on colonial education the most significant ones were probably those concerning ecclesiastical polity.

In New York and the other colonies south of New England the Anglican Church came sooner or later to exercise great influence. Accordingly, in keeping with that church's episcopal system, teachers in these colonies taught by the grace of the Bishop of London or his designee, frequently the colonial governor. In New England, where the church polity was originally Presbyterian or Calvinist, the Christian magistracy was equally empowered to determine who should be permitted to teach. Later, with a shift to the Congregational form of ecclesiastical organization, selection and approval of teachers moved into the hands of the selectmen or of an appointed school committee which might or might not include local clergymen.

There were, of course, many variations in colonial circumstances and practices. But it may be said in general that those who wished to teach had to gain approval of some ecclesiastical or political personage or body, were subject to continuing inspection thereby, and had tenure only by their will. Moreover, the allowing or licensing (which were the terms in contemporary use) was based on subjective judgments concerning the orthodoxy, moral character, subject-matter competence and teaching ability of the candidate. At the time of the Revolution, political loyalty became a matter to be looked into. Throughout colonial days formal educational requirements and written examinations as a means of testing candidates appear to have been unknown.

With the establishment of the new nation, responsibility for education was left, under the Constitution, to the several states which, in turn, characteristically placed responsibility for the selection, licensing, and supervision of teachers at the local level. The characteristic bases for these activities continued to be the personal judgments of local school committeemen, based on oral inquiry. New York State is generally considered to have been one of the most progressive in respect to educational matters in the early national period. Yet Alonzo Potter, who in 1841 made a study of New York's common schools,[16]

[16] Alonzo Potter and George B. Emerson, *The School and the Schoolmaster* (New York,

presented a picture of decrepit buildings, sterile teaching methods, meager and erratic attendance, a multiplicity of minute school districts (10,796 to be exact), an endless variety of texts, defective supervision, and an incompetent corps of male teachers. "That a large proportion of common school teachers are not well qualified for their duties," he wrote, "is so generally admitted, that proof of it would be superfluous."[17]

In summary, concerning the licensing of teachers up to the close of the early national period, it may be said that practices which originated in the New England Colonies were continued and became dominant. Control of education resided on the lowest local levels, the town and the district. Teacher licensing was local. The bases for granting or revoking licenses were personal judgments of local school officials as to competence and character, founded on oral inquiry and oral examination. Licenses so granted were valid only in the school in which the teacher was employed. This system of licensure proved to be unsatisfactory in practice.

The Later Nineteenth Century

In the past hundred years the locus of certification has moved to the state level, and the basis of certification has become primarily a matter of meeting certain degree and course requirements. Furthermore, certification has moved from the issuance of one general teaching certificate valid in only one school, to the issuance of a great variety of differentiated certificates with state-wide validity.

These changes in certification practice —changes in locus, bases and validity, and the growth of differentiated certificates—have been not a series of isolated events, but an integral part of, indeed largely dependent upon, a host of interrelated developments which took place in public education particularly in the nineteenth century. Those developments we must take into consideration if we would understand the changes which have occurred.

The battle for universal free public education. There was the struggle, above all, for general acceptance of the principle that education was indeed a fundamental concern of the state rather than of private, religious, or charitable interests only. There was the struggle, too, for the principle that public education should be free—entirely tax-supported—for all, as a matter of right, rather than as a matter of charity for a few stigmatized as paupers. This free, universal public education must be housed in adequate buildings; there must be improved methods of teaching and an amelioration of the harsh methods of discipline; and in addition and fundamental to all of this, there must be a corps of competently trained teachers. These were the rallying points around which the forces favorable to public education marshaled their energies.[18]

These forces included not only educators but certain religious and political leaders, labor groups, editors, humanitarians, and others. Sooner or later every state contributed persons to the battles that had to be fought through every state

Harper and Bros., 1842). Part I, *The School*, 264 pp., written by Alonzo Potter, D.D., Professor of Moral Philosophy in Union College, Schenectady, New York.

[17] *Ibid.*, p. 236.

[18] Edward H. Reisner, *The Evolution of the Common School* (New York, The Macmillan Company, 1930), pp. 286-421; also Edgar W. Knight, *Education in the United States* (New York, Ginn and Company, 1951), pp. 192-369; and R. Freeman Butts, *A Cultural History of Education* (New York, McGraw-Hill Book Company, 1947), p. 287.

legislature. They carried on through conventions, lyceum speeches, articles in journals and newspapers, memorials to legislatures—in every way they felt would promote the cause of public education.[19]

Two phases of the development of public education which were to exercise a special influence in certification practices were (1) the establishment of state educational systems, and (2) the emergence of specific provisions for teacher education.

Establishment of state educational systems. The movement toward state organization and state oversight of public education had its genesis in the granting of state funds to local schools. Someone on the state level had to do the consequently necessary clerical and fiscal work. In many cases this was the secretary of state, the state comptroller, or some other state official who thus served, in effect, as chief state school officer. Sometimes a special person known by one of several titles—for example, superintendent of common schools, or secretary of the state board of education—was appointed. Sometimes, too, the office would be established, then shifted or abolished, then re-created.[20] Since 1913, every state has had a separate chief state school officer, though the titles, salaries, methods of selection, professional competence, duties, and prestige of this officer vary tremendously in the several states.[21]

Paralleling, or more often following, the creation of the office of chief state school officer was the development of intermediate administrative and supervisory units—city superintendencies and county, division, or intermediate district superintendencies. There also developed the device of state boards of education, with varying degrees of policy-making functions. At present there are some forty state boards, with differing forms of selection, organization, and functions.[22]

Whatever the reasons for the establishment of the various policy-making, administrative, and supervisory units larger than the district and town may have been—they are manifold and the forms of organization have been and remain extremely complex—the implication for teacher certification was simply that there came into being in the nineteenth century units larger than the strictly local, which could serve as broader and perhaps more satisfactory agencies for certification. Those who were dissatisfied with the narrow, chaotic, provincial, shabbily carried out local certification practices—and such dissatisfaction with local procedures was rampant among educational reformers throughout the nineteenth and well into the twentieth century—could point to the state or intermediate units as the ones to take over certification, once those units had been established.

Emergence of specific provisions for teacher education. The development of teacher education in the nineteenth century is also intimately intertwined with significant changes in certification practice. The central role of the proper preparation of teachers was early recognized by the friends of public education; indeed for many of them the creation of specific provisions for teacher education became an intense personal crusade to which they dedicated themselves with

[19] Knight, *Education in the United States*, pp. 192-236.

[20] Edgar W. Knight, *Fifty Years of American Education* (New York, The Ronald Press Company, 1952), pp. 305-7.

[21] W. W. Keesecker, *State Board of Education and Chief State School Officers* (Washington: Federal Security Agency, U. S. Office of Education, 1950), Bulletin No. 12, *passim*.

[22] Keesecker, *op. cit.*, p. 8 fwd.

almost religious fervor. The Herculean work of Horace Mann in establishing and then maintaining the first state normal schools in Massachusetts is illustrative.[23] In New York State, David Page literally killed himself in his work as the first principal of the first state normal school, at Albany.[24]

Beginnings were indeed meager and feeble. Opposition was strong. Of professional instructional material there was at first virtually none. The most that many an early principal could hope to do was to give young people, many of whom had never progressed beyond common school themselves, additional preparation in the subjects which they would in turn teach in the common school. At best, these young people stayed a full year. Many of them, however, stayed but a few months and then took a school. One thing the early normal schools did do: they hewed to the line of their goal of preparing common school teachers, and in that effort they early hit on the principle of using actual schools for children to serve as model or practice schools.[25]

The normal school idea spread slowly, first in the Northeast, then in the West, finally in the South. By the end of the nineteenth century every state had some sort of provision for teacher training, but it was not until 1910 that the last of the states had established normal schools.[26] Meanwhile, too, their programs increased from one to two, then to three and four years in length. In recent decades all but a handful have become degree-granting institutions, many with graduate offerings, and now they are rapidly being transformed into multi-purpose state colleges.[27]

State normal schools are only one facet, however, of the field of teacher education. The nineteenth century also witnessed the development of the Teacher Institute movement, Teachers' Reading Circles, and Teachers' Libraries, as well as the continued development of teacher training in public high schools, private high schools and academies, and private normal schools, and the growth of departments and schools of education in colleges and universities.

One aspect of teacher education, and one which is particularly relevant to secondary certification, is the role played by colleges and universities. Teacher education was designed in the first instance to improve the quality of common school instruction. Such teacher education was roughly on the secondary level; was in fact often offered by academies. Under these circumstances the colleges were not officially concerned with teacher education.

However, a number of developments generated some interest and considerable concern in regard to teacher education among the colleges in the latter half of the nineteenth century. The common schools did not necessarily stop with the teaching of the common branches, but might offer higher subjects in cases where a teacher felt capable of instructing in them. The question of how high in the instructional hierachy the common schools ought to go became an issue. Furthermore, the public high school, either as a continuation of the common school or as a separate institution,

[23] Charles A. Harper, *A Century of Public Teacher Education* (Washington: National Education Association, 1939), pp. 20-22.

[24] David P. Page, *Theory and Practice of Teaching* (New York: A. S. Barnes and Burr, 1860), p. 356.

[25] Harper, *op. cit.*, pp. 30-33.

[26] Knight, *Fifty Years of Education*, pp. 227-28.

[27] Karl W. Bigelow, "The Passing of the Teachers College," *Teachers College Record*, May, 1957, pp. 409-17.

achieved ascendancy over the academy, particularly after the Kalamazoo decision in 1874. The normal schools were asking themselves if they did not have an obligation to prepare high school teachers.[28] In addition, college students going into teaching, principalships, and superintendencies were asking themselves and their alma maters if they could be supplied with some preparation for their vocations.

Accordingly, by the turn of the century some 220 colleges and universities were offering instruction in pedagogy, ranging all the way from a few lectures to full-fledged school-of-education programs, as at New York and Columbia Universities.[29]

Such developments in teacher education, reaching into every type of collegiate institution, offered the possibility of a new base for teacher certification. That base could now be the completion of a specified amount of training, in terms of years, courses or curricula, subject matter and/or professional education, which might be demanded as a prerequisite to certification, or might be acceptable as a substitute for such existing requirements as certification examinations.

Certification practices in New York State. The common school system of New York State was inaugurated by the Act of 1812, according to which teachers were to be licensed by the town school inspectors.[30] A trend toward a higher locus for certification began with the Law of 1841, which created deputy (county) superintendents of schools, gave them supplementary powers of certification, and provided that appeal relating to certification issues might be made to the state superintendent of common schools.[31] Further changes in the same direction were made in the Law of 1843.[32]

Then, in 1849, the school law recognized the significance of the founding of the state's first normal school, five years previously, by providing that the possession of a diploma from that school should be deemed evidence that the holder was "a qualified teacher."[33]

In the latter half of the century the authority of the state superintendent over certification was strengthened considerably. Thus he was authorized to annul certificates "upon cause,"[34] to grant certificates upon examination[35] or upon evidence of graduation from college plus three years of teaching experience,[36] and to endorse, "in his discretion," certificates or normal school diplomas from other states.[37]

By the end of the century, however—in 1900 to be precise—nearly two-thirds of the certificates were still local in origin, with those based on normal school training accounting for about one-sixth of the total and those resulting from attendance in the recently organized training classes contributing about one-seventh. State certificates, based on two years of experience and examinations (of about high-school graduate level), and

[28] Harper, *op. cit.*, pp. 129-40.

[29] Leigh G. Hubbell, "The Development of University Departments of Education" (unpublished doctoral dissertation, Catholic University of America, 1924), p. 2.

[30] "An Act for the Establishment of Common Schools," Ch. CCXLII, *Laws of New York*, 35th Session, 1812 (Albany, Printed for S. Southwick, Printer to the State, 1812), p. 496.

[31] *Laws of New York, 64th Session*, 1841, Ch. 260, Sec. 36 and 40.

[32] *Laws of New York, 66th Session, 1843*, Ch. 133, Sec. 1, 2, 8, 9, 10.

[33] *Laws of New York, 72nd Session, 1849*, Ch. 382, Sec. 11.

[34] *Laws of New York, 87th Session, 1864*, Title 1, par. 16.

[35] *Laws of New York, 98th Session*, 1875, Ch. 567, Sec. 15.

[36] *Laws of New York, 116th Session, 1894*, Ch. 556, Title I, Sec. 10.

[37] *Ibid.*

college-graduate licenses were very few in number.[38]

It should be recorded, however, that the classes of local certificates had steadily increased in number, and that there had been a steady shift from oral inquiry—first to locally-prepared and finally to state-prepared but locally-administered written examinations. Moreover as the twentieth century dawned, regulations were adopted which effectively barred teachers with purely local certificates from teaching in most high schools in New York State.[39] However, qualified high school teachers were still eligible, without further test, to teach on the elementary school level as well.

From the illustration furnished by New York State we may conclude that the main outline of certification practice as exercised today had been sketched in by the end of the nineteenth century. The fundamental change of locus from local to higher levels had been inaugurated. The increase of validity from local to state and even interstate had been begun. The present bases—formal preparation, as measured by diplomas, degrees and courses—had likewise been initiated. Different certificates for differing functions and teaching levels (i.e., secondary, kindergarten, music) had begun to be issued. In short, by the end of the nineteenth century the foundations for certification practice as we know it today had largely been laid.

The Twentieth Century

In the twentieth century there began to appear research studies in the field of certification, studies which frequently involved the compilation and analysis of great masses of data gathered from all of the states. From those studies one can gain some idea of the status quo, of the changes which had occurred since previous studies had been made, and very often of the author's evaluation of current practices and his ideas as to what steps ought to be taken.

The first of these national studies was done by Cubberley in 1906 for the National Society for the Scientific Study of Education.[40] Cubberley found a great deal over which to be alarmed. Only some 20 per cent of teachers had had any special training; 80 to 85 per cent had prepared by private study, had been tested by examination and experience, and had no special preparation whatsoever for teaching. The situation with regard to certification was chaotic, and the standards were often incredibly low. Cubberley cites the case of an eleven-year-old boy passing the county teacher's examination with an average of 98 per cent.[41] Examinations were given frequently, in some schools every month, for a fee which he felt was "nothing more than a form of petty graft imposed on the most poorly paid of all public servants, and against which the teacher had no recourse."[42] Furthermore, over 80 per cent of the states made no distinction between elementary and high school certificates. Of this he says:

> In almost all of our states a teacher's certificate of any grade is good to teach in any part of the school system. . . . Cases not infrequently happen of a teacher teaching in a high school when the teacher herself has not had more than a year or two of high school work.[43]

[38] *Annual Report*, State Superintendent of Instruction, 1900.

[39] *Annual Report*, Superintendent of Public Instruction, 1903, p. 192.

[40] Ellwood P. Cubberley, "The Certification of Teachers," The Fifth Yearbook of the National Society for the Scientific Study of Education, Part II (Chicago, The University of Chicago Press, 1906). 88 pp.

[41] *Ibid.*, p. 39.

[42] *Ibid.*, pp. 59-61.

[43] *Ibid.*, p. 42.

Cubberley's recommendations included the following: elimination of all local, city, and county certification; elimination of third- and fourth-grade certificates; the gradual elimination of all examinations; differentiation between the elementary and secondary levels. In short, he looked to all state certification based on educational credentials. Of particular moment is his thinking in respect to secondary certification:

> It may be laid down as a safe standard that a teacher is not prepared to teach in a high school until after he has had some advanced training beyond . . . high school or normal school. . . . This practically demands that the teachers of our high schools be required to be college graduates, or to have had an equivalent education. . . . The only safe way is to impose a definite educational requirement such as graduation from college.[44]

Updegraff's study published in 1911[45] furnishes convincing evidence of the trends in certification practices as of that date. Forty-seven of the forty-eight states now issued certificates on the state level; 68 per cent of all kinds of certificates granted were issued by central agencies (state officers or educational institutions).[46] As to the validity of the certificates issued, in fifteen states all except city and temporary certificates had statewide validity; in twenty-nine states there existed dual systems of state and county validity; and in four states state–town systems.[47]

Regarding differentiated certification, Updegraff's study reveals that thirty states issued one or more certificates valid only in elementary or rural schools; ten states, certificates valid in high schools (the holder needed the certificate to teach on the secondary level, but was not necessarily limited thereby to the secondary level); and twenty-seven states, one or more special certificates authorizing the holder to teach only the branches specified—for example, drawing, music, domestic science, or kindergarten.[48]

Finally, Updegraff's data disclosed a clear trend in the bases of certification away from examinations and toward the completion of courses of study. By 1911, forty-one states issued certificates based on the completion of a normal school course.[49] In thirty-nine states there also existed certificates for which graduation from college was a prerequisite. Further analysis reveals that in ten of those states no professional education was required; in ten others some college graduate certificates did, and others did not, require professional education; in the remaining nineteen states professional education was required, by way of either undergraduate or post-graduate study.[50]

The trends which have been noted were halted and even seriously reversed during World War I, when, owing to a general and profound teacher shortage, many schools were closed and many persons were employed on emergency and temporary bases, almost totally regardless of qualifications. In 1918, of the entire teaching force of some 600,000 persons, 50 per cent had no special professional preparation for their work, 100,000 had less than two years' education beyond the eighth grade.[51]

[44] *Ibid.*, p. 59.
[45] Harlan Updegraff, *Teachers Certificates Issued Under General State Laws and Regulations*, U. S. Office of Education, 1911, Bulletin No. 18 (Washington: Government Printing Office, 1911).
[46] *Ibid.*, pp. 143, 136.
[47] *Ibid.*, pp. 154-55.
[48] *Ibid.*, pp. 156-57.
[49] *Ibid.*, p. 182.
[50] *Ibid.*, p. 172.
[51] *A National Program for Education*. The National Education Association Commission Series No. 3 (Washington: National Education Association, 1918), p. 4.

Two major studies by Cook, in 1921 and in 1927,[52] disclosed, however, that in the decade of the 1920's there was a renewal of the movement to upgrade certification standards. In regard to the bases for certification, Cook concluded from her data that, as of 1927, "prospective teachers, supervisors, and administrators now prepare for their respective vocations in higher institutions of learning almost exclusively,"[53] and that "the indications are that it [the examination system] will eventually be considered practicable only as an occasional substitute for systematically earned scholarship requirements."[54]

Cook also revealed that between 1911 and 1926 the number of states in which power of certification had been centralized in the hands of state officials had increased from fifteen to thirty-six. Furthermore, by 1927 the tendency to limit the holder of a certificate to a specified teaching level or field was clear. To be sure, in many places the holder of a general high school certificate was allowed to teach on any level, but the same was not true in regard to holders of elementary certificates. Moreover, there was a marked tendency to limit high school certificates to particular academic fields for which they were endorsed.

Cook further noted a tendency to reduce the issuance of life certificates in favor of probationary certificates which later could be validated for as much as ten years, and a tendency to reduce or eliminate the renewal privilege in regard to the lowest grade of certificates offered or to make the holder secure more training for renewal purposes.[55]

The overarching fact of the decade of the 1930's was the great depression with its concomitant limited general employment. The effect of this on teacher supply was a serious oversupply of teachers in some fields, such as English and history, throughout the entire decade, and in most of the remaining fields until about 1936.[56] This circumstance made possible the continued raising of minimum standards and a corollary increase in requirements of formal teacher preparation. It was during the 1930's, for example, that the demand for a minimum of five years of college preparation for teachers prior to their first employment was increasingly voiced. Each state raised its certification standards in terms of its own previous position so that, while standards were generally tightened somewhat, they were still marked by tremendous diversity, considerable confusion, and notably wide variations over the nation as a whole. These were the findings of the National Survey of the Education of Teachers as of 1935.

> Probably the greatest single obstacle to making teaching a profession . . . is the present chaos in certification practices. In many states certificates . . . may still be obtained by means of examinations and even in the states where they are issued on the basis of college preparation it is possible on the elementary level, with but few exceptions, for one to teach with less than a four-year period of preservice college preparation. And it is further possible for many to teach in high school without this amount of preparation. . . .
>
> Furthermore, qualitative standards are decidedly lacking for most types of teachers

[52] Katherine M. Cook, *State Laws and Regulations Governing Teachers Certificates.* Dept. of Interior, Bureau of Education Bulletin 1921, No. 22 (Washington: Government Printing Office, 1921), 242 pp.; and *Ibid.*, Bulletin 1927, No. 19 (Washington: U. S. Government Printing Office, 1928), 296 pp.

[53] Cook, *op. cit.* (1927), p. 30.

[54] *Ibid.*, p. 9.

[55] *Ibid.*, p. 28. (The consequences of this last-mentioned trend will be examined in detail in the second article of this series.)

[56] Earl W. Anderson and Reuben H. Eliasson, "Teacher Supply and Demand," *Review of Education Research*, 7:239, June, 1937.

in most states. There is little insistence, for example, that one must have specific course work in the fields of specialization one wishes to teach. The requirements with respect to courses in education and psychology, special method, and practice teaching are also inadequate.[57]

By way of action the National Survey proposed that certification be restricted to specific levels and fields; that life certificates be abolished; that uniform titles be established to promote interstate reciprocity; that additional data on health, character, aptitudes, interests, test scores, and the like be required of the applicant for certification over and above college transcripts; and finally, that the number certificated at any given time be in relation to the actual demand for that particular kind of personnel.[58]

Following the outbreak of World War II in Europe, economic developments in the United States and later the adoption of the draft operated to reduce the supply of teachers. One effect of this shortage which, of course, became increasingly severe after the United States itself entered the war was the granting of emergency and temporary certificates, a lowering of requirements in fact if not in theory. Nevertheless, particularly since the close of World War II, there has been a continuation, indeed a marked intensification, of the movement to upgrade certification requirements.

On the basis of the data furnished by Woellner and Wood and the National Education Association, it may be said that the following generalizations characterize the practice of teacher certification as it existed in the United States soon after the middle of the twentieth century:[59]

1. Legal authority for certification is now centralized in one state agency in practically every state, with some diffusion of authority in a few. For example, in New York State, certification authority is still shared with the city boards of education of New York City and Buffalo, and in four states, the state colleges are authorized to issue certificates directly to graduates earning the Bachelor of Science in Education degree.

2. The examination as a basis for certification is virtually extinct in practice, though in theory it is still possible to get some types of certificates in seven states via examination.

3. Educational prerequisites have superseded examinations as the chief basis for certification. Those prerequisites are being constantly increased both qualitatively and quantatively. Some twenty-five states now require the Bachelor's degree for the lowest regular elementary certificates, and five more have set deadlines when that requirement must be met. Forty states require a Bachelor's degree for the initial secondary certificate, four require a fifth year of preparation, and in only four states are fewer than four years of collegiate preparation required. Qualitatively, virtually all states now mandate a minimum number of semester hours of professional education, and well over half of the states mandate general education.

4. The trend away from life certifi-

[57] Earle U. Rugg, *et al.*, *Teacher Education Curricula* (Vol. III of National Survey of the Education of Teachers, United States Office of Education Bulletin 1933, No. 10. Washington: Government Printing Office, 1935), p. 141.

[58] *Ibid.*, pp. 141-42, 348.

[59] Robert C. Woellner and M. Aurilla Wood, *Requirements for Certification of Teachers, Counselors, Librarians, and Administrators for Elementary Schools, Secondary Schools, and Junior Colleges.* (Chicago: University of Chicago Press, 1955); and National Education Association, *A Manual on Certification Requirements for School Personnel in the United States* (Washington: National Education Association, 1953), 172 pp. (See especially pp. 1-19).

cates continues, as does the granting of blanket certificates. It is increasingly the practice to issue certificates which are endorsed for specified levels, subjects, or fields and are valid for a specified period, rather than to issue blanket life certificates.

5. Interstate reciprocity in certification is moving forward.

6. There is still, however, a plethora of types and grades of certificates offered under confusing names.

It is evident that by mid-twentieth century great strides have been made in directions already set in the nineteenth. However, problems remain plentiful. For example, though certification is now firmly established at the state level, the problem of just who shall be involved in the formulation of requirements persists. Though interstate reciprocity is growing, the diverse body of certification laws still constitutes a maze that seriously inhibits reciprocity in both certification and the allied field of teacher education. Furthermore, disparate standards are also conducive to inequalities in the nature of the teaching force from state to state. This, too, is a matter for concern from the point of view of the national welfare.

A serious current problem concerns the adequacy of the present basis of certification. It has been shown that certification now rests on the completion of formal preparation as measured in courses and degrees, that this was one of the outcomes of the development of formal teacher education, and that the major portion of the change-over from previous bases has occurred in the twentieth century. As that change-over increased in magnitude a fundamental problem likewise increased in significance, a problem posed by this question: What, then, should be the proper quantity and quality of formal education to be required as the basis for teacher certification?

Concern over that problem was voiced at least as early as 1906, when Cubberley made the first nation-wide study of certification. A similar concern was strongly reflected two decades later in the findings of the National Survey of the Education of Teachers. That concern was also central to the work of the Commission on Teacher Education from 1938 to 1944.[60] And now that teacher certification rests squarely and exclusively on the basis of formal education, the problem of the quantity and quality of that education continues to be ever-present, persistent and immediate. In fact, the specific question of five years of formal preparation for certain categories of teachers, with which the second article deals in some detail, may be viewed as simply one facet of that problem. Indeed, in view of the dynamic nature of our society and of our educational arrangements it is quite possible that the specifications for the proper education of teachers can never be drawn with any assurance of finality, but must constantly be reviewed and possibly recast.

Finally, an even more fundamental question concerning the present basis for certification may be raised; namely, dare we assume without question that the present basis for certification is indeed the best possible? Armstrong, in discussing problems to be solved in trying to meet a democratic society's need for professional teachers, makes this pertinent statement:

> Most certificates . . . are now issued by state departments or state boards of education, usually . . . on the basis of a transcript of credits from an approved college or uni-

[60] *The Improvement of Teacher Education.* A Final Report by the Commission on Teacher Education (Washington, D. C., American Council on Education, 1946), p. viii.

versity. . . . Standards as to minimum requirements and so on are also important, *but the most urgent problem is this one of determining the basis on which certificates will be granted.* (Italics not in original.)[61]

Is it possible, then, that the present basis for certification, earned academic credits, may be inadequate? Should those who are concerned with certification, while continuing to deal with immediate problems of the proper amount and kind of formal teacher training, also be looking to possible alternative bases for certification? On these questioning notes we terminate the present general discussion of the practice of teacher certification in the United States, concluding that at mid-twentieth century both the theory and the practice of certification must be called unfinished business.

One important phase of that unfinished business is the question of five years of formal preparation for teachers, especially for teachers of academic subjects in secondary schools. It is with this question, or more exactly, with the idea and practice of requiring five years of preparation for teacher certification that the second article will be concerned.

[61] W. Earl Armstrong, "A Democratic Society Needs Professional Teachers," *Annals of the American Academy of Political and Social Sciences*, 265:140, September, 1949.

REVIEWS

Cultural Foundations of Education, by Theodore Brameld. New York, Harper and Brothers, 1957. xxii + 330 pp. $5.00.

Theodore Brameld's writing belongs properly in the philosophical foundations of education. The title of this latest of his published works could create the mistaken expectation that he is working primarily as a social scientist. He is always primarily a philosopher of education. The subtitle locates him more accurately: *A Systematic Examination of the Theoretical Foundations of Education in Their Cultural Setting.* As such the book is actually a direct and impressive continuation of the theoretical position set forth in his two books of 1950, *Ends and Means in Education*, and *Patterns of Educational Philosophy*. Recognition of this continuity is an important aid to the understanding of the author's teaching. His well-rounded theoretical position had taken definite and confident form when he wrote these earlier books. In the present volume, he employs this position as a critical point of view from which to examine some of the social sciences, principally and prevailingly the works of the anthropologists, as these may be pertinent to the direction and conduct of public education.

A brief review can cite only a few of the facets of Brameld's position and note how, as essentials in his critical viewpoint, they guide his search into the educational significance of modern cultural anthropology. First his position has much basic affinity with the philosophy that has prevailingly accompanied the wide progressive movement in education in this country; with its thoroughgoing naturalism; its full acceptance of science; its orientation in freedom and democracy; its incorporation of art; its strong belief in the social constitution of the individual personality; its rejection of cultural rigidity; its disposition to work in and with change, not fearfully against it; and, finally, its realization that the purposes and institutions of education are integrally involved with those of their social-cultural medium and to be dealt with always as such. But, second, his most distinctive emphasis is upon the goal-seeking character of education, upon seeing it as primarily a process of "social self-realization," both cultural and individual. From this viewpoint he has become an outspoken critic *within* the movement to liberalize educational thought and practice. He believes that the times call upon us as educators to give far more serious, direct and thoroughgoing attention to our integral involvement with the cultural problems that are tending all too rapidly to become dangerous centers of personal and public crisis, far more, that is, than even the progressive philosophers of education have given. He charges them with being too vague and too generally committed to the great moral principles of democracy and with having too exclusive allegiance to the tentativeness of scientific method when they should rather be charting goals ahead, goals worthy of strong commitment and of vigorous, convinced teaching. This is Brameld's working position. All his books in recent years are devoted to elaborating and pointing it up. This is the way to understand his present writing on anthropology. Inasmuch as the nature and the dynamics of education are so identified with the nature and dynamics of culture, we would do well, he holds, to turn for insights to those who are the most searching and systematic students of cul-

tures, the anthropologists. This should be a fruitful relationship to cultivate, and as the author portrays it, after an amazingly extensive and penetrating study, this fruitfulness begins to take on worthy proportions.

Only seasoned students of anthropology should venture to appraise Brameld's survey and presentation of what is being done in that field; I can only say that the reading of this report and analysis has been good for me; I have something of worth, something I now hold indispensable to adequacy in educational thinking, something that came from this reading. Special students of school practices and the school curriculum will be prepared to appraise the book from their angle, as will also the educational psychologists and the other social and political scientists. I prefer only to call attention to a few points which excite my special interest. One of these is the author's response, implicit and explicit, to the persistent and difficult question of how to establish the basic values and goals which are required for intelligent direction in the educational program. He says, first, that they should come from insight and study into the living culture of the people served; and second, that their degree of confirmation is always in the degree of free "consensus" of the people sharing this culture. As such there are some values very deeply settled, the kind we reiterate in our spoken moral, religious, and patriotic observances and resort to if we would elicit the public support of a measure or cause. Whether there are universal values of this kind is today a moot question. The author and some of the current anthropologists believe there are some which are *potentially* universal. But he rejects any a priori assumption of them. He prizes this very general kind of values but distinguishes between them and what he calls "blueprints" for guidance of future aspiration and effort. The latter assume the general values but are formed in more concrete cultural terms representing people's needs and preferences and serving as goals which elicit the free commitment of people, and as such become effective guides to educational plans, programs and choices. It is the failure to work toward such blueprints that constitutes the author's chief point in criticism of the progressive movement.

Closely connected with his emphasis on blueprints is Brameld's belief that while the method of science must be employed persistently and increasingly in the study of things and cultures, it alone is not adequate for the task in hand. He insists that the formation and observance of values and goals, while including science, is a "normative" function, that it must be pursued as such and that its formulations and findings must be vindicated and established as such. The key to this normative function is the phenomenon of consensus. Its dynamics and its discipline are focused in the quest for and observance of consensus.

While I believe that Brameld's general argument in this connection is defensible and sound, still whenever in all of his books he deals with this problem of method, his strides are too long for the comfort of a critical reader. The subject is so crucial in his whole position that closer analysis would greatly help the reader to check for adequacy or to go along with assurance.

Special mention should be made of the author's chapter on freedom, and especially of his readiness to see freedom as a necessary condition for arriving at the establishment of dependable findings both in scientific and in normative efforts. No part of his whole argument could be more penetrating and more significant than this for our times and for our educational thought and practice.

Many will be interested in Brameld's work as a type of study in the social and philosophical foundations of education. Always with us is the problem of the relations of these foundations to the university disciplines. Although there are many aspects of the book worthy of note in this connection, I mention only one. As a philosopher of education the author, in effect, inquires of the anthropologists whether and to what

degree the theories underlying their research take account of related problems in theory with which the educator must cope. In an implicit way, he is proposing that the theoretical needs of education may have an important part to play in shaping the theoretical structure of the anthropologists' research. A suggestion to this effect in regard to Brameld's book came from a conversation with Dr. Kenneth Benne of Boston University. The usual idea is that we as educational theorists turn to the university disciplines to find from them what can be known that throws light on the educational task. This we shall continue to do, but the connection would be much better as a two-way street. And until it becomes a mutual undertaking its fruitfulness will be seriously limited. There is a suggestion also that better results may occur when both education and some particular field of university study are examined and compared in their theoretical foundations. Brameld has given us a worthy and challenging example of this procedure in connection with anthropology. The results, I believe, justify the trust that it will apply with equally good effect in relation to other branches of systematic knowledge and research.

R. Bruce Raup
Teachers College, Columbia

Changing Values in College: An Exploratory Study of the Impact of College Teaching, by Philip E. Jacob. New York, Harper and Brothers, 1957. 174 pp. $3.50.

In these days of unprecedented expansion in American higher education the worth of the undertaking is largely an unquestioned article of faith. The evidence is unmistakable that persons with a college education stand to gain economic and social advantages over those without it. Hence the scramble for admission and the acute pressure for more facilities. It is also certain that students do grow in knowledge and skill through their college experience. But what difference does college make in students' *values*? What is the effect of higher education on interests, beliefs, commitments, and attitudes? In short, how does college influence character? It was to help answer these questions that the study under review was made.

This book is not a report of new field research, but a critical interpretive summary and analysis of existing research data, comprising some 354 items listed in the annotated inventory at the conclusion of the study. Professor Jacob has skillfully marshaled the large amount of available evidence about the value impact of college teaching and has presented it with unusual clarity, wit, and candor.

The conclusions leave no room for complacency. They will come as a shock to educators who have assumed that college teaching has a direct and decisive effect on student attitudes and values. The evidence indicates that by and large the formal curriculum has little such influence, regardless of type of institution, courses taken, quality of teaching, or methods of instruction. That is to say, the variables which are generally thought to make a major difference in educational outcomes in fact appear to be largely irrelevant to the creation and transformation of values.

According to well-authenticated research findings, American college students exhibit a remarkably homogeneous pattern of values. The large majority are contented, self-centered, tolerant, traditionally moral, conventionally religious, obedient to government yet politically irresponsible, both optimistic and gloomy about international affairs, and convinced of the great vocational and social advantages of their college education. The effect of the college experience on values is chiefly to socialize the individual, bringing him into conformity with this standard college pattern. Moreover, this influence is not produced by the formal curriculum, but through the impact of the total college environment.

The study was initially intended as an investigation of the value outcomes of gen-

eral education courses in the social sciences. It was found that students in these courses were not influenced in significantly different ways from other students, except sometimes for a redirection of academic or vocational interest as a result of such study.

In contrast with these generally negative conclusions was the evidence of the peculiar potency of certain colleges—mostly smaller private ones—in effecting changes in students' values. A consistent and powerful tradition, spirit, or climate pervades these institutions and tends to produce a distinctive outlook in their students. This finding is both encouraging and suggestive because it shows that colleges *can* make a significant difference in values and because an analysis of the potent institutions may supply some hints about the conditions for such effectiveness.

While the material relating to the insignificant value influence of the teacher and to the irrelevance of teaching methods is particularly depressing, there is some encouraging evidence that now and then an unusual teacher may profoundly affect his students' attitudes and that certain value-laden learning experiences in which students directly and responsibly participate may be deeply influential. These exceptional cases also suggest directions in which the search for educational efficacy should be pressed.

A final section of the study reports on research relating student values to certain personality patterns, especially those of the so-called "stereotype personality." Some useful suggestions are made regarding an approach to the remedial education of such persons, of whom there are a great many in institutions of higher learning.

Reading the Jacob report will surely serve to relieve college educators of smugness concerning the impact of their work on students' character. It should also impart a due modesty concerning the role of formal courses in personal development. Above all, it should make abundantly clear the long-term effect of the entire social milieu, both before college and during college, on the formation of the student's character and value structure.

I think I must say that Philip Jacob's report is one of those rare publications that *everybody* in higher education ought to read. Not that it is a "great book." It was never intended to be that. It *is* an important summary of important studies of an important problem. Furthermore, there is no excuse for not reading the book. It is short, well arranged, and written in an engaging style. The author makes clear the limitations of his materials, yet he does not so hedge on his conclusions that they lose their force. He rounds out the study with a concluding "note on further inquiry" which provides some stimulating suggestions for next steps in value explorations. This provocative and absorbing book is required reading!

PHILIP H. PHENIX
Teachers College, Columbia

The Liberal Arts College: A Chapter in American Cultural History, by George P. Schmidt. New Brunswick, Rutgers University Press, 1957. ix + 310 pp. $6.00.

Perhaps the most distinctively American feature of higher education in the United States is the liberal arts college. From the founding of Harvard in 1636 until about 1870 it was almost the only kind of institution for advanced study in the country. And in the period from 1870 until the present, during which the liberal arts college was obliged to compete with new and rival professional and technical schools, it has remained the basic undergraduate type of institution. During this latest period in which the primacy of the liberal arts college was challenged, its fundamental nature has changed so markedly that a graduate of the class of 1858 would scarcely recognize his alma mater, were he to look in on it a century later.

In the book under review George P. Schmidt, professor of history at Douglass

College, has told the story of the emergence of the college in colonial times and its sometimes chaotic growth and development during the century and three quarters of our national life. Professor Schmidt is no novice in the field of the history of higher education; he is also the author of *The Old Time College President*, a fine study published when good books about colleges and universities were much more rare than they have been in recent years.

In the first portion of the volume the author emphasizes the religious impulse which underlay the founding of nearly all colleges before 1870. In a notable chapter he delineates the role of the college president, who prior to the past eighty years was in nearly all cases a clergyman. The influence of religion on every aspect of collegiate life was insured and enforced by the long lines of clergymen presidents.

If the colleges founded prior to 1870 were almost always controlled by religious denominations, their curricula were also remarkably similar. The spell of Greek and Latin lay heavy on them, and the classics along with mathematics and spoken and written English comprised the standard academic fare until late in the nineteenth century.

After 1870 the story is one of the breakdown of the old order in higher education. The classical tradition was successfully challenged and varied curricula emerged to replace it. New secularly oriented institutions under private or public auspices arose and other religiously centered colleges evolved into independent, secular institutions. The highly trained specialist replaced the old-time college professor who, besides being a clergyman, taught perhaps half a dozen different subjects.

In the transformation of the college in the last decades of the nineteenth century Professor Schmidt singles out three forces which appear to have had the greatest impact in forcing change. The first of these was the rise of the Midwestern state university: "In such a school not only the classical student laying the foundations for the ministry or the law, but the farmer, the mechanic, the merchant—in short the *people*—could find the kind of training and information they needed."

The second force which brought about fundamental change was the importation of German concepts of the scholar and scientist. No longer was the academic settee of the old-time college professor respectable; only the specialist with his Ph.D. from a German university would do. Before long some American colleges were adding graduate schools, changing their names to universities and producing Ph.D.'s also. The third force which made for change in the colleges was the introduction of the theory of evolution into American academic life. The most fundamental tenets of many clerical professors and presidents seemed threatened by this strange doctrine which eventually became almost universally accepted in American colleges.

In discussing the liberal arts college in the twentieth century, the author stresses the ideological battles which raged between the rival schools of thought represented by John Dewey and Robert M. Hutchins. In this chapter one sees especially clearly the fair-minded objectivity and thorough knowledge of the subject which characterize Professor Schmidt's book. He knows the American college scene thoroughly, as he demonstrates both in his narrative and in the notes and bibliography. This reviewer can recall no source of any consequence which Professor Schmidt has overlooked. His final chapter outlines the growth of the concept of academic freedom in American colleges and universities.

The Liberal Arts College is a first-rate study by a highly competent and seasoned scholar. It is written simply and clearly and in an informal manner. This reviewer has noted only two items which he would question. The first, a minor matter, is the statement on page 196 that Harvard and Yale have never had chapters of national fraternities. Both institutions have, in fact, had chapters of national fraternities sometime during their history. The second is the ob-

servation on page 234 that not much expansion of honors programs can be expected in the near future. There is at present considerable stir in the large state universities in this area, and it is the reviewer's belief that honors programs may flourish during the next decade in the state universities, where with only a few exceptions very little has been accomplished until recently.

Professor Schmidt's book is both an excellent account of the fundamental unit of the American higher educational system and a distinguished contribution to American cultural history.

FREDERICK H. JACKSON
Carnegie Corporation of New York

Books Received for Review

Archer, Clifford P., *Elementary Education in Rural Areas.* New York, Ronald Press, 1958. 448 pp. $5.00.

Berkson, I. B., *The Ideal and the Community.* New York, Harper, 1958. 302 pp. $4.50.

Gross, Neal, Ward S. Mason, and Alexander W. McEachern, *Explorations in Role Analysis.* New York, Wiley, 1958. 379 pp. $8.75.

Halverson, Paul M. (ed.), *Frontiers of Secondary Education II.* Syracuse, Syracuse University Press, 1957. 71 pp. $2.25.

Hickman, Cleveland P., *Health for College Students.* Englewood Cliffs, Prentice-Hall, 1958. 402 pp.

Hillway, Tyrus, *The American Two-Year College.* New York, Harper, 1958. 276 pp. $3.75.

Pelone, Anthony J., *Helping the Visually Handicapped in a Regular Classroom.* New York, Bureau of Publications, Teachers College, Columbia University, 1957. 99 pp. $1.55.

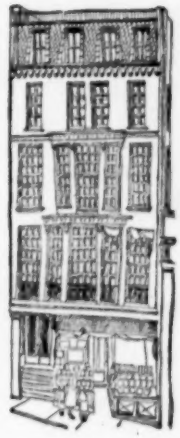
Phenix, Philip H., *Philosophy of Education.* New York, Holt, 1958. 623 pp. $5.75.

Preston, Ralph C., *Teaching Social Studies in the Elementary Schools,* rev. ed. New York, Rinehart, 1958. 382 pp. $5.00.

Rummel, J. Francis, *An Introduction to Research Procedures in Education.* New York, Harper, 1958. 413 pp. $5.50.

Schneider, Ben Ross, Jr., *Wordsworth's Cambridge Education.* Cambridge, Cambridge University Press, 1957. 298 pp. $6.00.

Taylor, Griffith (ed.), *Geography in the Twentieth Century,* 3d ed. New York, Philosophical Library, 1957. 674 pp. $10.00.



BOSTON 7 NEW YORK 16
CHICAGO 16 DALLAS 1
PALO ALTO

HOUGHTON MIFFLIN

A Checklist of Important Titles in Education for SUMMER SCHOOL

forthcoming—

THE PRACTICE OF SCHOOL ADMINISTRATION
Herold C. Hunt
Paul R. Pierce
available June, 1958

LEADERSHIP IN ELEMENTARY SCHOOL ADMINISTRATION AND SUPERVISION
Albert H. Shuster
Wilson F. Wetzler
available April, 1958

SUCCESSFUL HIGH SCHOOL TEACHING
Sam P. Wiggins
available May, 1958

recent—

FORM AND STYLE IN THESIS WRITING
William G. Campbell
114 pages $1.95

INTRODUCTION TO RESEARCH
Tyrus Hillway
284 pages $3.50

WORKING WITH CHILDREN IN SCIENCE
Clark Hubler
425 pages $5.50

THE NEW ERA IN EDUCATION
I. L. Kandel
388 pages $4.50

TEACHING SPANISH IN THE GRADES
Margit W. MacRae
405 pages $4.50

INTRODUCTION TO EDUCATIONAL MEASUREMENT
Victor H. Noll
437 pages $5.75

MENTAL HYGIENE IN ELEMENTARY EDUCATION
Dorothy Rogers
497 pages $5.50

THE PHILOSOPHICAL BASES OF EDUCATION
Revised and Enlarged Edition
Robert R. Rusk
176 pages $3.75

EDUCATIONAL ADMINISTRATION: CASES AND CONCEPTS
Cyril G. Sargent and Eugene L. Belisle
474 pages $5.50

WORLD BOOK COMPANY . . .

professional books in education are written by authors of established reputation who provide a skillful balance between theory and practice based on sound developmental teaching procedures.

FUNDAMENTALS of CURRICULUM DEVELOPMENT, Revised Edition

B. Othanel Smith, William O. Stanley and J. Harlan Shores

1957. 715 pp. $6.00

IMPROVING READING INSTRUCTION

Donald D. Durrell

1956. 414 pp. $4.25

AN INTRODUCTION TO ART EDUCATION

Ralph L. Wickiser

1957. 352 pp. $6.25

GUIDING LANGUAGE LEARNING

Mildred A. Dawson and Marian Zollinger

1957. 544 pp. $4.75

EDUCATIONAL PSYCHOLOGY, Revised Edition

Lawrence E. Cole and William F. Bruce

Ready in Summer

THE PUBLIC ADMINISTRATION of AMERICAN SCHOOLS, Revised Edition

Van Miller and Willard B. Spalding

Ready in Summer

THE YEAR BOOK OF EDUCATION

Each volume of this distinguished series is prepared under the joint editorial responsibility of Teachers College, Columbia University and the University of London Institute of Education and consists of original papers dealing with one theme that is of genuine concern to the educational profession the world over.

Yonkers-on-Hudson, New York